

2017

# Trajectories in religious development among African American young adults

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**Trajectories in religious development among African American young adults**

by

**Yuk C. Pang**

A dissertation submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of

**DOCTOR OF PHILOSOPHY**

Major: Human Development and Family Studies

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2017

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## ACKNOWLEDGEMENTS

First, I want to thank my major professor, Dr. Daniel Russell, for his continuous guidance and help at all stages of my graduate study and dissertation research. I am deeply appreciate his patience when reviewing my dissertation drafts, and his quick but detailed responses when I ask questions. I learned a lot through this process, especially quantitative research methods. This dissertation is not possible without his patient supervision and assistance over the years.

Second, I thank my other POS committee members, Dr. Carolyn Cutrona, Dr. Kimberly Greder, Dr. Janet Melby and Dr. Nathaniel Wade, for their insightful comments and suggestions for my dissertation and other projects I worked on. Their advice and support improved the quality of this research further. I also want to extend my appreciation to both the former and current data manager of the Family and Community Health Study (FACHS), Dr. Todd Abraham and Dr. Dong Zhang, for providing me the data and assisting in solving various issues related to FACHS, as well as data cleaning and analyses. Their enormous statistical knowledge and skills have greatly facilitated my understanding of statistical modeling techniques and statistics in general.

In addition, I thank my family, for their emotional support and unconditional love during this journey. I also would like to thank the Iowa State University McNair Program director, Thelma Harding, for her mentoring and support in this journey. Last but not least, I thank my friends, fellow graduate students, faculty from the Department of Human Development and Family Studies, and all other people who have provided me support and encouragement during my time at Iowa State University.



## ABSTRACT

Religiosity and spirituality have been an important component within the African American culture throughout U.S. history. Previous research has documented the importance of religion to African Americans, particularly in terms of coping with the negative experiences they face in the U.S. While many studies have focused on the positive impact of religiosity and spirituality on African American's mental health, fewer studies have addressed change in African American's religiosity over time, especially during the period when they transition from adolescence into young adulthood. Adolescence is a crucial developmental transition and can disclose a tremendous amount of knowledge about religious socialization and change in the life course. Utilizing data from the Family and Community Health Study (FACHS), a longitudinal study that examines African American families, this study extends the current state of the literature by examining and identifying multiple trajectories in African American adolescents' religious development. Overall, there was a significant decline in religiosity during both adolescence and young adulthood. There was also individual variability in the change in religiosity during both developmental periods. Parental religiosity and deviant peer affiliation continued to have a significant impact on African American religiosity during both adolescence and young adulthood. Other sociocultural factors that predicted long-term growth, decline, or stability in their religiosity were also examined. Finally, implications of these findings as well as future directions for research on these relationships are discussed.

## CHAPTER 1: INTRODUCTION

Minority stress such as racial discrimination against the African American population has been a major issue throughout the history of the United States. Even though legislation and political movements since the Civil Rights Act of 1964 have eliminated legal discrimination based on race and ethnicity, many African Americans continue to face stress due to their ethnicity. At a young age, ethnic minority children are already aware of discrimination in many contexts (Coll et al., 1996). Research has found that these discriminatory experiences can have a variety of negative impacts in the lives of ethnic minority adolescents and young adults (e.g., Brody et al., 2006; Chavous, Rivas-Drake, Smalls, Griffin & Cogburn, 2008). Although these negative experiences can have deleterious effects on African American adolescents and young adults (Schmitt, Branscombe, Postmes, & Garcia, 2014; Butler-Barnes et al., 2016), protective factors and coping processes help buffer these negative experiences (Greer & Chwaliaz, 2007; Chapman & Steger, 2010; Murry, Heflinger, Suiter, & Brody, 2011).

One of the protective factors against psychological distress among ethnic minorities that research has focused on is religiosity (Samaan, 2000). Religiosity has been one of the essential aspects in the lives of many African Americans throughout U.S. history (Taylor, Chatters, & Levin, 2004). Research has shown that African American adolescents often report higher levels of religious and church involvement than their Caucasian counterparts (Chatters, Taylor, Bullard, & Jackson, 2009). Many African Americans are more likely to seek support and counseling through their pastors or ministers instead of seeking help from mental health professionals. Research has also established the relationship between religion and various developmental outcomes during

adolescence and young adulthood, such as physical and mental health, education, and family well-being (see Regnerus, 2003). For these reasons, Boyd-Franklin (2010) emphasized the importance that mental health professionals working with the African American population be sensitive to the role of religion in their lives, the need to incorporate religious and spirituality assessment, and to consider the role of spirituality and religion in the treatment of African American clients. Indeed, previous research has shown the positive impact of religion and spirituality on the psychological well-being of African Americans (Bierman, 2006; Ellison & Flannelly, 2009).

Despite such strong emphasis on religion within the African American culture, findings from previous research indicate that religiosity tends to decrease during adolescence and young adulthood among the general population (Desmond, Morgan, & Kikuchi, 2010). Less research has examined African American religious development as these individuals transition from adolescence into adulthood. The present dissertation expands on the current literature by identifying the trajectories of religiosity among African Americans who are transitioning from adolescence to adulthood, using data from the Family and Community Health Study (FACHS) a longitudinal study of 889 African American families residing in Georgia and Iowa.

One of the strengths of the FACHS project is the availability and use of prospective data, which allows for an examination of events from adolescence into young adulthood. This study utilized latent growth curve modeling to examine the pattern of change over time in religiosity among 889 African Americans from adolescence through young adulthood who participated in the FACHS project. One of the limitations of current research on religious development is the lack of longitudinal studies of how

adolescents' religious attitudes and behavior change over time (Desmond, Morgan, & Kikuchi, 2010; Hardie, Pearce, & Denton, 2013). Changes in religiosity mostly occur as these adolescents go through changes in brain and cognitive development (Barry, Nelson, Davarya & Urry, 2010), and data on adolescents' religiosity at two time points may not be sufficient to understand religious development during adolescence and young adulthood. Using latent growth curve modeling methods to study changes in religiosity over multiple time points has benefits in understanding trajectories of religious development. For instance, latent growth curve modeling provides summary measures to characterize the underlying trajectory given a large set of data over time. Such information includes the initial level of religiosity and the shape and rate of change. Furthermore, latent growth curve modeling also allows the present study to incorporate both time-invariant and time-variant predictors that potentially can explain variability in the initial level and rate of change over time between individuals. The current study expands on previous research by examining changes in religiosity during adolescence and young adulthood within the African American population.

#### Dissertation Organization

The organization of this dissertation follows the traditional format. Chapter 2, "*Trajectories of religious development among African American adolescents & young adults*," provides an overview of studies that have examined the multiple trajectories in African American adolescents' religious development and factors that predict long-term growth, decline, or stability in religiosity. For this study, latent growth curve modeling was utilized to examine changes in religiosity as African Americans transition from adolescence into young adulthood, as well as multiple sociocultural factors that may

predict the pattern of change in religiosity for research participants. Research methods and the analytical approach for the present study are discussed in Chapters 3. Results for the hypothesized models during adolescence and young adulthood are reported in Chapter 4. Finally, discussions of the results, as well as implications and possible directions of future research, are discussed in Chapter 5.

## CHAPTER 2: TRAJECTORIES OF RELIGIOUS DEVELOPMENT AMONG AFRICAN AMERICAN ADOLESCENTS & YOUNG ADULTS

Religion is important to adolescents despite common misconceptions that adolescents are rebellious and even less religious compared to other age groups (Brega & Coleman, 1999; Uecker, Regnerus, & Vaaler, 2007). Such misconceptions may be due to cognitive changes that occur as individuals move into adolescence and young adulthood. These changes allow the person the ability to engage in more abstract thinking about religion than just learning what to believe and practice (Barry et al. 2010). Yet, research has documented that religious socialization within families can have a significant impact on children and adolescents. Furthermore, their surrounding sociocultural environment and peer influences can also have an impact on adolescents' religiosity beyond family religious socialization. These changes can often lead to decreased religiosity among adolescents and young adults compared to other age groups (Desmond, Morgan, & Kikuchi, 2010). However, demographic trends during recent years tell a different story about adolescents and young adults' religiosity and their perception of the importance of religion in their lives, especially for the African American population (Taylor, Mattis, & Chatters, 1999).

There has been an increased interest in adolescent religiosity in recent years. Demographic trends support the importance of such growing interest in studying religious development. According to the most recent Religious Landscape Study conducted by the Pew Research Center, 53% of Americans claimed that religion is very important in their lives and 24% said religion is somewhat important regardless of their religious affiliation (Pew Research Center, 2015). Among those that said religion was

important to them, 16% of those who responded “*very important*” and 25% of those who responded “*somewhat important*” were between the ages of 18 to 29. Although this study found that the U.S. Public is becoming less religious in terms of religious belief and practice when compared to the 2007 Pew Research Center study, the percentage of Americans who are religiously affiliated is similar compared to the previous years’ data (Pew Research Center, 2015). These findings demonstrate the importance of research on adolescents and young adults’ religious development. Ignoring this domain of study in the field of human development would be ignoring a central aspect of development for many adolescents and young adults.

This study specifically looked at religious development among African American adolescents during the transition into young adulthood. Previous research has indicated the aforementioned patterns of religious devotion among African Americans apply across the life span. Studies found African American adolescents are more likely than youth from other racial groups to attend religious services and be involved in youth groups and organizations that are religiously based (Smith, Denton, Faris, & Regnerus, 2002; Chatters, Taylor, Bullard, & Jackson, 2009). Religion and faith-based organizations were found to have a significant role in various domains of development among African Americans (Maton, 2001).

### **The Meaning of Religion and Spirituality among African Americans**

Before delving into the current literature on the impact of various sociocultural contexts on African American religious and spirituality development, approaches to defining and distinguishing the terms *religion* and *spirituality* in the field of psychology of religion need to be discussed. These terms have been used interchangeably in the field

of social science under the construct of religion (Spilka, Hood, Hunsberger, & Gorsuch, 2003). However, researchers have debated the conceptualization of religion and spirituality and the differences between the two concepts in recent years.

One common approach to distinguishing between *religion* and *spirituality* is conceptualizing religion at the level of an organized sociocultural-historical system, whereas spirituality is conceptualized as more personal, reflecting to a person's beliefs, values, and behavior. For example, Koenig et al. (2001) defined *religion* as "...an organized system of beliefs, practices, rituals, and symbols that serve (a) to facilitate individuals' closeness to the sacred or transcendent other (i.e., God, higher power, ultimate truth) and (b) to bring about an understanding of an individual's relationship and responsibility to others living together in community" (p.18). On the other hand, *spirituality* is defined as "...a personal quest for understanding answers to ultimate questions about life, about meaning, and about relationship to the sacred or transcendent, which may (or may not) lead to or arise from the development of religious rituals and the formation of community." (p.18). Koenig et al. (2001) identified five "types" of spiritualities that are either "moored" or "unmoored". They argue that for most people the spiritual life is "moored", that it ties to a formal religious tradition. However, Koenig et al. (2010) also acknowledged that there are people who search for meaning to ultimate questions through "unmoored" spiritualities such as "humanist spirituality", where the focus is on humanity as a whole, universal ethics, and the cultivation of human potential rather than around a transcendent God or transcendental reality.

With that being said, previous research has also explored the meaning of *religion* and *spirituality* specifically among African Americans. For instance, Jagers (1997)



defined *spirituality* as “a sacred, transcendent force that permeates all things and influences all aspects of lived experience” (Mattis & Gratman-Simpson, 2013, p. 547). In addition, qualitative research conducted by Mattis (2000) with African American women provided subjectively meaningful definitions of *religiosity* and *spirituality*. In this study, African American women recruited from a large Midwestern university defined *religion* or *religiosity* as one’s adherence to the prescribed beliefs and devotional practices associated with the worship of God. By contrast, *spirituality* was defined as one’s recognition of the sacredness of all things, an intimate relationship between God, the individual, and others, and in turn the conscious commitment made by individuals to live a life of virtue. Based on these definitions, African American women perceived *religiosity* as associated with organized worship and as a path to *spirituality* (the outcome), which is the internalization of the specific values and associated with relationships between self, God, and the larger community. Although the concepts of *religion* and *spirituality* are related to each other, it appears African American women also perceived the two constructs as being distinct.

Comparing the aforementioned definitions of *religiosity* and *spirituality*, items used to assess African Americans’ religiosity and spirituality in the FACHS study were broad. As indicated in the methods section of the present study, the available items (i.e., church attendance, the importance of religious or spiritual beliefs in day-to-day life, and attendance in Sunday School, a class, or a discussion group on religion) focused mostly on the *religiosity* construct. Therefore, the remaining dissertation used the generic term *religious development* to capture the changes in religiosity among African Americans during the transition from adolescence to young adulthood.

## Theoretical Framework

Religion and spirituality have been studied in developmental science based on several theoretical approaches. For example, religious development during adolescence has been studied as an identity-motivation system organized around particular religious and spiritual goals, the development of cognitive schemas indexing conceptions of religious phenomena such as prayer and God, and also in terms of a dynamic developmental system perspective (King & Roeser, 2009). Using this perspective, religion and spirituality are perceived in relation to multiple contexts, people, symbol systems, and opportunities that would either foster or hinder such development (King & Roeser, 2009). For the present study, the dynamic developmental system perspective was used to discuss what previous research has found regarding how various sociocultural factors may have an impact on religious development of African American adolescents and young adults over time.

Developmental System Theory (DST) was utilized in the present study to examine the context and process involved in religious development as African Americans transition from adolescence to emerging adulthood. DST focuses on transactions between individuals and their various sociocultural contexts of development (King & Roeser, 2009). Central to DST are the concepts of *plasticity* (the potential for individual to change systematically in both positive and negative ways in their life that is constrained by both individual and contextual factors), *context* (various sociocultural contexts), and *developmental regulation* (the bidirectional relation between person and social environment) in determining different developmental trajectories (King & Roeser, 2009;

(Lerner, Lewin-Bizan, Warren, 2011). Each of these conceptualizations is discussed below.

First, *plasticity* is one of the key aspects of DST in terms of understanding religious development as African Americans transition from adolescence into young adulthood. Such plasticity can also be related to the ability for advanced and abstract thinking due to cognitive development during adolescence and into young adulthood (e.g., Barry, Nelson, Davarya, & Urry, 2010). In this study, plasticity means the possibility of African American individuals' growth, decline, or stability in terms of their religious development. However, such capacity in developing religiosity over time through various developing trajectories is also affected by both the individual and his or her sociocultural surrounding environment. Therefore, the present study proposes to explore these factors and their impact on changes in African American religious development longitudinally.

Second, also foundational to DST is the significance of *context* and person-by-context transactions. DST proposes that the basis for both plasticity and constraints in development lies in relations that exist among the multiple sociocultural contexts that comprise the substance of human life (Lerner, Lewin-Bizan, Warren, 2011). Rather than being located in the person, religious development is located in the ongoing relations between the individual and his or her multiple embedded sociocultural contexts of development. Context consists of multiples of sociocultural contexts such as peer groups and families.

Third, as a consequence of integration of different sociocultural contexts, *developmental regulation* occurs through mutually influential connections among all

levels of developmental systems, represented as individual ↔ context relations. The focus is on the *processes* that govern developmental change and exchanges between individuals and their contexts (Lerner, Lewin-Bizan, Warren, 2011). Developmental regulation may both facilitate and hinder opportunities for change in religious development among African Americans over time. Religious development is characterized by the bidirectional relationship between the individual and his or her multiple social contexts over time (King & Roeser, 2009). Such bidirectional relationships that may exist among different contexts and organizations are especially important to the present study. We assumed these environmental factors can also shape changes in religious activity and spirituality over time (Regnerus, Smith, & Smith, 2004). While most of the previous studies on religion and spirituality have focused on the role of religion on outcomes such as substance abuse (Kogan, Luo, Murry, & Brody, 2005), delinquency (Desmond, Soper, Kraus, 2011), and psychological well-being (Bierman, 2006; Buser, 2009), the present study focuses on sociocultural contexts and their role in determining religious development during the transition from adolescence into young adulthood.

From a developmental systems perspective, the following literature review focuses on studies that examined relationships between parents, peers, and neighborhood characteristics and African Americans' religiosity from adolescence into young adulthood. The present study expands current research by incorporating the role of ethnicity and culture in religious development, specifically within the African American population.

## **Changes in Religiosity during the Transition from Adolescence into Young Adulthood**

As adolescents develop during puberty, changes in cognitive abilities often affect their religious development. Changes in the brain during the transition from adolescence into young adulthood provide individuals with advanced reasoning ability regarding abstract and complex topics such as religion and spirituality. As adolescents' thinking becomes more principled and abstract, they are more likely to internalize religious and spiritual commitment beyond external religious practices. Such cognitive ability can promote greater open-mindedness and rational thinking as they further explore religion and spirituality in their lives (Barry, Nelson, Davarya, & Urry, 2010).

The transition from adolescence into young adulthood not only leads to significant changes in brain development of the individuals, but also influences the sociocultural contexts these individuals live in and their impact on religious development. Previous research has shown parental and peer influences can have a significant impact on various domains of adolescent development such as delinquency, substance abuse, and academic achievement (see Barry et al., 2010). Similarly, changes in these sociocultural contexts can either promote or hinder religious socialization through both parental and peer influences. While parents tend to have more influence in their children's values, peers, friends, and other adults may begin to play a more influential role in religious development as adolescents reach young adulthood. Therefore, it is essential for researchers to examine the effects of these social relationships on African Americans' religious development.

Current research on religiosity development mainly focuses on church attendance and the importance of religions. Some studies have been done on religious development during adolescence and young adulthood for the general population, and it appears religious practice (e.g., church attendance) is more likely to show a rapid decline compared to the importance of religion in the lives of young adults (Uecker et al., 2007). For instance, using five waves (eight years) of data from the National Youth Survey (1979-1987), Desmond, Morgan, and Kikuchi (2010) found that both church attendance and the importance of religion declined over time for adolescents in general. Desmond et al. (2010) also found that adolescents who lived with both of their biological parents and had higher peer attachment reported high initial levels of church attendance, but their church attendance and the importance of religion decreased more rapidly over time. Despite such differences between church attendance and the importance of religion, Desmond et al. (2010) still found a significant correlation between these two aspects of religiosity.

Similarly, Stoppa and Lefkowitz (2010) found young adults reported significant declines in religious service and activity attendance during the first three semesters of college, but the importance of religion tended to remain stable. On the other hand, Koenig (2015) used self-reported measures of childhood and current religiousness and spirituality during young adulthood from college-aged participants and found that the average religiousness score decreased. Similar to what Desmond et al. (2010) found, he also reported that church attendance was less stable and decreased more than the importance of religion in daily life. In addition, the study found that spirituality increased slightly but significantly across successive age brackets. Such a pattern can be due to the

fact that as the individual transitions from adolescence into young adulthood, he or she is conceptualizing religion differently than the traditional definition of religion as an institution, or moving towards a form of spirituality that is not necessarily tied to a formal religious tradition.

Despite the different patterns of change over time between church attendance and the importance of religion, research has shown the two are still significantly associated with each other. Desmond, Morgan, and Kirkuchi (2010) utilized latent growth curve modeling and found adolescents who attended church frequently at the initial wave of assessments also rated religion as more important at the same time point. However, adolescents who indicated that religion was of greater importance at the initial wave of assessments showed a steeper decrease in the importance of religion over time. Similarly, adolescents with greater church attendance at the initial assessments reported greater decreases in the rate of church attendance over time during the transition from adolescence to young adulthood. Importantly, Desmond et al. (2010) also found significant individual variability in the initial level and change over time for both church attendance and the importance of religion. Finally, Desmond et al. (2010) found a positive correlation between the rates of change for these two aspects of religiosity, indicating that adolescents who reported a greater decline in church attendance also tended to report a greater decline in the importance of religion.

Furthermore, some studies have found that changes in religiosity during adolescence and young adulthood can be different across ethnic groups. Using a sample of African American women between the ages of 14 and 17 years of age at baseline and between 18 and 21 years of age at year four, Aalsma et al. (2013) found decreased

religiosity over time. However, these women's religiosity scores had returned to their baseline scores by year four (Aalsma et al., 2013). These authors suggested that their sample of African American women appears to return to their religious roots as they transition from adolescence into young adulthood. In a more recent study Chan, Tsai, and Fuligni (2015) found that change in church attendance differed by ethnicity; declines in church attendance were more rapid for Latino Americans than other ethnic minority groups (i.e., African Americans and individuals with mixed backgrounds). Although these two groups reported the highest levels of religious involvement when they were in the 12<sup>th</sup> grade, their involvement was approximately equal to their European counterparts four years later.

In general, most research has shown that religiosity tends to decline during adolescence and young adulthood. Furthermore, changes in various sociocultural contexts during this time period can influence such declines in young's people religiosity and spirituality. Therefore, the present study investigated how various socio-cultural contexts affect changes in religiosity over time among African American adolescents. The literature review begins with a discussion of how individual experiences, parental influences, peer influences, and neighborhood characteristics influence religious development.

### **Individual Factors and Changes in Religious and Spirituality Development**

**Traditional moral beliefs.** Adolescence is a time period in which youth begin to question their moral beliefs about the particular behaviors that were taught by their parents and religious leaders. Adolescents explore alternative beliefs regarding what is right and wrong and can be encouraged by friends (especially those who are considered



deviant) to subscribe to alternative belief systems which in turn can potentially lead to delinquent behaviors (Benda, 1997; Simons, Simons, & Conger, 2004). Most research on moral beliefs or conventional values has mainly examined the effects of religion (e.g., church attendance and the importance of religion) on moral beliefs (Johnson, Jang, Larson, & Li, 2001; Simons, Simons, & Conger, 2004; Desmond, Soper, Purpura, & Smith, 2009; Desmond & Kraus, 2014). For instance, Desmond and Kraus (2014) found the importance of religion mediated the relationship between church attendance and moral beliefs. They also found that the importance of religion moderated the effect of church attendance on moral beliefs (Desmond & Kraus, 2014). That is, when adolescents believe religion is not important, frequent church attendance may actually reduce moral beliefs rather than strengthen them. However, some research has indicated that the relationship between religiosity and moral beliefs may also be reciprocal.

Desmond, Morgan, and Kikuchi (2010) have postulated that while religion can strengthen adolescents' moral beliefs, individuals who have strong moral beliefs may also be more inclined to attend religious services and perceive religion as being important to their lives. Using data from the National Youth Survey (NYS; 1979-1987), Desmond et al. (2010) conducted growth curve modeling analyses and found moral beliefs (i.e., adolescents' beliefs about how wrong they think it is to engage in various delinquent behaviors) were positively associated with the initial importance of religion. However, they found the importance of religion over time declined faster for adolescents who had stronger moral beliefs at the initial assessment (Desmond et al., 2010). Finally, stronger moral beliefs were associated with more frequent church attendance initially, but did not significantly predict change in church attendance over time (Desmond et al., 2010).

Most previous research has recognized the important role of religion on delinquent behavior and moral beliefs for adolescents. Yet, limited research has been conducted on the effect of moral belief on religious development among African American adolescents. Simons et al. (2004) utilized FACHS data and examined the relationship between parental religiosity, child religiosity, traditional moral beliefs, and child delinquent behavior. They found that parental religiosity predicted child religiosity which in turn predicted traditional moral beliefs. The most recent Religious Landscape Study conducted by the Pew Research Center interviewed more than 35,000 Americans from all 50 states and found that 47% of the members of historically black Protestant churches reported relying on religious teachings and beliefs for moral guidance (Pew Research Center, 2015). For African American adolescents, religious organizations can be a crucial source of moral guidance. The church family can serve as a group of people to whom individuals can turn for moral guidance and regulate their emotions and behavior, reducing the likelihood of engaging in various delinquent behaviors. Researchers have also found that African American adolescents' spirituality is associated with higher stages of moral development (Mattis & Watson, 2009). Such self-regulatory and self-monitoring behaviors among religious youth and adults may result from religion's and spirituality's roles in creating a moral core from which individuals can draw to guide their choices and behaviors (Mattis & Watson, 2009). Because of the importance of religion in providing moral guidance to many African Americans, the present study examined the effect of moral beliefs (i.e., as assessed by asking how wrong it is for someone their age to engage in behaviors such as using marijuana, selling illegal

drugs, and cheating on their romantic partner) on changes in religiosity over time among African American adolescents using data from FACHS.

**Perceived discrimination.** Perceived discrimination is one type of stress that African Americans face in their daily lives. Using data from FACHS, Gibbons, Gerrard, Cleveland, Wills, and Brody (2004) found that 91% of preadolescent African Americans reported experiencing racial discrimination at least once in their lifetime. Simons et al. (2013) reported that 67% of adolescents reported being insulted because they were African American. With a large number of studies showing the detrimental effect of perceived discrimination on African American adolescents' well-being (Fisher, Wallace, & Fenton, 2000; Brody et al., 2006; Prellow, Mosher, & Bowman, 2006; Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007), it is important to also investigate strategies used by African Americans to cope with these negative experiences.

Previous research has noted the important role of religion for African Americans in terms of coping with racial discrimination (Bierman, 2006; Ellison, Musick, & Henderson, 2008; Butler-Barnes et al., 2016). Religious organizations such as churches often help in addressing discriminatory laws and practices within African American communities, using the power of their faith to uplift and sustain those individuals in the face of racial discrimination, prejudice, and exclusion due to race. Previous research has identified various ways that religious involvement may serve to buffer the effects of racial discrimination on mental health, such as providing social support, increasing the individual's willingness to forgive, and positive religious coping (e.g., looking to a higher power for strength). However, religion can also lead to negative religious coping, in which the expression of anger at a higher power can have detrimental effects on one's

mental health. Numerous studies have shown that religion can buffer the effects of discrimination on mental health, particularly for African Americans (Birerman, 2006; Eck, 2007; Ellison, Musick, & Henderson, 2008; Odem & Vernon-Feagans, 2010). These findings are especially important given the fact that religious leaders in African American churches often play an important role in helping African Americans with mental health issues (Taylor, Chatters, & Levin, 2004). Compared to their White counterparts, African American pastors are more involved in counseling their congregations, and they are often the first professional contact in dealing with mental health issues for African Americans (Buser, 2009).

Although research has consistently shown how religion helps African Americans cope with discriminatory experiences (Ellison, Musick, & Henderson, 2008), limited research has investigated how racial discrimination may lead to changes in religiosity during the transition from adolescence into young adulthood. However, some studies have examined how racial discrimination may predict the use of culture-specific coping strategies among African Americans (i.e., ways in which members of a cultural group draw on a tradition of cultural knowledge to assign meaning to a stressful events and to determine available resources to cope with the stressor) that is referred to as Africultural coping. Such coping is different from mainstream coping strategies (e.g., problem-focused and emotion-focused coping behaviors), which are based on ethnocentric European worldviews (Utsey et al., 2000). Using an African American college student sample, Constantine, Wilton, Gain, and Lewis (2002) found that religions participation and spirituality accounted for significant variance in the use of Africultural coping styles and religious problem-solving styles.

Research has also indicated that African Americans may cope with race-related stress differently compared to coping with general stressors (Lewis-Coles & Constantine, 2006). For instance, using the youth version of the Africultural Coping System Inventory (ACSI; Utsey et al., 2000), Gaylord-Harden and Cunningham (2009) found the experience of discrimination predicted the use of all three dimensions of culturally-relevant coping: emotional debriefing (reflected by managing stress or emotional responses to stress by expressing oneself in poetry, songs, raps/rhymes or short stories), spiritually-centered coping (spiritually-based attempts to manage a situation, “asking God for strength”), and communalistic coping (attempts to cope by relying on individuals’ interdependence with those around them) after controlling for the use of mainstream coping in a sample of African American early adolescents. Brown, Phillips, Abdullah, Vinson, and Robertson (2011) collected data from a sample of African American college students using the Brief COPE Inventory (Carver, 1997). They found women were more likely to utilize religion and emotional support when coping with general stress compared to men. When coping with racism-related stressors, however, men were more likely to use humor and substance use than women, whereas women were more likely than men to use religion, emotional support, and instrumental support (Brown et al., 2011). In summary, current research indicates there is a relationship between perceived discrimination and religion, and that religious coping is often one of the main coping resources in coping with perceived discrimination.

### **Parental Influence on Trajectories of Religious Development**

**Parental religiosity.** Parents often play an important role in the transmission of religious practices, both directly and indirectly through their parenting behaviors.

Religious socialization from parents can foster their children's religious development through formal teaching, parent-child discussion (Boyatzis & Janicki, 2003), role modeling, and families' participation in prayer and other rituals (Burr, Kuns, Atkins, Bertram, & Sears, 2015). Some studies have found mothers can be more involved in communicating to their children about religion than fathers (Gunnore & Moore, 2002; Boyatzis & Janicki, 2003) and have greater influences on their children's religiosity in both the general population and within African American families (Gunnore & Moore, 2002; Gutierrez, Goodwin, Kirkinis, & Matties, 2014; Burr et al., 2015). Although most of the primary caregivers in FACHS were African American women, the present study also acknowledged that both fathers and mothers could play significant roles in transmitting religious beliefs and practices during adolescence to both boys and girls (Bao, Whitbeck, Hoyt, & Conger, 1999; Gutierrez, Goodwin, Kirkinis, & Matties, 2014). For instance, Bao et al. (1999) found that only father's church attendance predicted adolescent boys' religious importance, whereas mother's church attendance significantly predicted both adolescent boys' and girls' ratings of religious importance. Although Gutierrez et al. (2014) also found parents, grandparents, and siblings positively influenced African American adults' religious involvement, mothers had the greatest positive influence on religious commitment and values, indicating that African American women play a central role in shaping their children's religious values and beliefs.

Parental religiosity has also been found to affect their parenting styles and practices among both African American families and their Caucasian counterparts (Cain, 2007; Gunnore, Hetherington, & Reiss, 1999; Wiley, Warren, & Montanelli, 2002). Baumrind (1967) identified three types of parenting styles based on characteristics of

parenting behaviors: 1) authoritative style, which is characterized by warmth, nurturance, consistency reasoning, and responsiveness; 2) authoritarian style is characterized by control, coerciveness, and strictness; and 3) permissive parenting is characterized by leniency and lack of discipline. Gunnor et al. (1999) found that religiosity was positively associated with the use of authoritative parenting for both mothers and fathers. Hardy, White, Zhang, and Ruchty (2011) found that warmth, rejection, structure, chaos, and autonomy-support moderated the relationship between family religiousness and individual spirituality; the association between family religiosity and young adult spirituality was stronger in families with higher warmth, structure, and autonomy-support, and lower rejection and chaos. On the other hand, they also found rejection and autonomy-support moderated the relationship between family religiousness and individual religiosity, in which the association between family religiosity and young adult's individual religiosity was stronger in families with lower rejection and higher autonomy-support (Hardy et al., 2011). Power and McKinney (2013) reported that parental religiosity is significantly associated with positive parenting practices (i.e., warmth), which in turn affects young adult's religiosity over time. In their Seventh-day Adventist young adult sample, Dudley and Wisbey (2000) found that warm and caring behavior from parents predicted strong religious commitment as their children entered young adulthood. In addition to parental religiosity being directly transmitted to children through direct communication and practices regarding religiosity, religious parents may be more likely to engage in warm and supportive parenting practices that also reinforce and help their children to internalize parental religiosity into their own values and beliefs.

Studies indicate that parents continue to have significant influences on young adults' religiosity after they leave home (Gunnore & Moore, 2002; Martin, White, & Perlman, 2003; Barry, Padilla-Walker, & Nelson, 2011; Myers, 1996). For instance, Leonard, Cook, Boyatzis, Kimball, and Flanagan (2013) found perceived similarity between child and parents' religious beliefs, faith support, and attachment to fathers predicted young adults' religiosity in their sample of alumni of two Christian universities. Despite other influences such as peers on religiosity (Regnerus, Smith & Smith, 2004), parents' religious affiliation and attendance may serve as protective factors against the decline in church attendance during adolescence (Desmond et al., 2010; Hardie, Pearce, & Denton, 2013).

While previous research has shown the role of families in socializing religious development, less research has been conducted specifically with African American families. The family is often considered to be one of the most important contexts for cultivating religiosity for African American youth. Using Wave 2 data from FACHS when the adolescents were in 8<sup>th</sup> grade, Simons, Simons, and Conger (2004) found parents' religiosity had a direct effect on their child's religiosity among African American families. Unlike their Caucasian counterparts, such family influences can include grandparents and other siblings in addition to their parents (Hoge, Petrillo, & Smith, 1982; Gutierrez, Goodwin, Kirkinis, & Mattis, 2014), and some researchers have suggested religious socialization can be different within African American families (Brody, Stoneman, Flor, & McCrary, 1994; Brody, Stoneman, & Flor, 1995; Flor & Knapp, 2001). Existing research has found that religious socialization (i.e., the process by which an individual learns and maintains religious attitudes, values, beliefs, and



behaviors) is also shaped by gender, with African American women usually reporting higher levels of religious involvement (Mattis, 2005; Gutierrez et al., 2014). African American women are largely responsible for educating youth regarding various aspects of life, and to ensure that adolescents participate in key rituals such as baptism and christenings within the faith community (Mattis, 2005). Based on existing research regarding the importance of parental religiosity on adolescent and young adult religiosity, the present study also included parental religiosity as one of the predictors of religious development. In addition, the present study examined whether the primary caregiver's (i.e., mostly African American women) perception of the importance of religiosity has an effect on adolescent religious development.

**Racial Socialization.** Another important aspect of parenting practices within African American families that is not shared by Caucasian American families is *racial socialization*. This can be defined as “the transmission of cultural values that teach African American children different strategies to use in negotiating between the broader society and their own communities” (Martin & McAdoo, 2007, p. 125). Racial socialization is essential in preparing African American adolescents for the racial bias and discrimination they may experience from their peers and other adults in society (Phinney & Chavira, 1995). Many African American churches also serve as a mechanism for racial socialization (Brega & Coleman, 1999; Martin & McAdoo, 2007; Howard, Rose, & Barbarin, 2013). Earlier scholars have asserted that helping parents teach their children in developing a positive racial identity is one of the responsibilities for African American churches (Lincoln & Mamiya, 1990; Mitchell & Thomas, 1994; Paris, 1985). African American churches tend to provide members with racial values and identity, and

sermons or other activities provide members a link to the historical past beyond the traditional role of spreading religious beliefs to congregations.

One of the models of racial socialization is the three dimensions of racial and ethnic socialization proposed by Hughes and Chen (1997). The *cultural education* dimension focuses on cultural traditions of the ethnic group to instill feelings of ethnic and racial pride. The *preparation for bias* dimension involves parenting behaviors that teach their children about racial bias in the larger society and ways to deal with the negative treatment by others that they may face. Finally, the third dimension is *promotion of mistrust messages*, which involves the communication of caution or warning about other racial groups to keep children from trusting kids and keep distance from kids in other racial groups. These messages are more negative in tone and teach their children to be suspicious of other racial groups. Hughes and Johnson (2001) found that parents' reports of children's unfair treatment from adults, as well as children's reports of unfair treatment from peers, were related to more frequent *promotion of mistrust*. Parents may be reluctant to discuss the aforementioned topics before their children reach adolescence due to their cognitive and social ability to understand the complexity of these issues. However, racial socialization can be important for African American adolescents and young adult mental health as their likelihood of experiencing racial discrimination increases and they become more aware of the disparities and stereotypes associated with their racial background (Granberg, Edmond, Simons, Gibbons, & Lei, 2012).

Some scholars have also hypothesized that religiosity is a dimension of racial socialization (Harrison, Wilson, Pine, Chan, & Buriel, 1990; Hughes, Rodriguez, Smith, Johnson, & Stevenson, 2006; Oravecz, Koblinsky, & Randolph, 2008). Such inclusion

was based on the understanding of the historic significance of religious and spiritual involvement within the African American experience (Rodriguez, McKay, & Bannon, Jr, 2008). For instance, earlier research found African Americans perceived greater importance of the church than their Caucasian counterparts (Brega & Coleman, 1999). Research on African American families has found parents often place great emphasis on education, religion, self-esteem, and hard work (Marshall, 1995).

In summary, researchers have repeatedly found that African American churches serve an important role in racial socialization for African Americans. For African Americans, religiosity and participating in African American churches can lead to positive effects on their psychological well-being by alleviating the negative impacts of racial discrimination, as well as providing opportunities to participate in activities with others within the African American community.

### **Peer Influence on Trajectories of Religious Development**

**Affiliation with deviant peers.** Peer influences become more important as individuals reach adolescence and young adulthood and experience increasing levels of emotional intimacy with their friends. Affiliation with deviant peers during adolescence can have an important effect on adolescents' religiosity and spirituality. Findings from existing research shows that friends tend to hold similar religious beliefs (Regnerus, Smith, & Smith, 2004), especially with highly religious adolescents and young adults (Smith & Snell, 2009). While most studies have examined the effect of religion on adolescents' delinquency and affiliation with delinquent peers (see Kelly, Polain, Jang, & Johnson, 2015), fewer studies have examined the effect of affiliating with peers on adolescents' religiosity and spirituality. Johnson, Jang, Larson, and De Li (2001)

examined the relationship between affiliation with delinquent peers and religiosity among adolescents by testing a cross-lagged panel model. They found that both affiliation with delinquent peers and delinquency negatively predicted adolescent religiosity longitudinally. Using data from the National Longitudinal Survey of Youth 1997 (NLSY97) cohort, Day, Jones-Sanpei, Smith Price, Orthner, Moore, and Kaye (2009) found girls who reported affiliating with peers with more negative characteristics when they were 12-14 years old (i.e., gang involvement, cutting class, and having sex) were less likely to attend church services with their families when they were 16 year olds. However, these negative peer characteristics did not predict their church attendance when they were 20 years old. Another study used data from the National Studies of Youth and Religion and found that negative peer influences (i.e., how many of the participant's friends have been in trouble for cheating, fighting, and skipping class) negatively predicted both church attendance and the importance of religion among adolescents longitudinally after controlling for the effect of positive peer influences (i.e., respondents' friends who share his or her beliefs about religion; friends who talk about matters of religious beliefs and experiences; Davignon, 2011). The magnitude of the effect of positive peer influences on adolescents' religiosity decreased or became non-significant when negative peer influences was added to the model, indicating that adolescents' affiliation with deviant peers can have an important negative impact on their religiosity and spirituality.

Desmond, Morgan, and Kikuchi (2010) examined changes in religiosity during adolescence and young adulthood using latent growth curve modeling. They found that older adolescents with greater family income and more frequent affiliation with

delinquent peers reported less frequent church attendance. Faster declines in church attendance were found for adolescents with higher initial levels of church attendance who lived with both of their biological parents and reported stronger peer attachment (e.g., “I fit in very well with my friends”). On the other hand, affiliating with delinquent peers was not significantly associated with both initial level and change in the importance of religion.

### **Religion and Neighborhood Characteristics among African American Adolescents and Young Adults**

Most research has focused on family and peer influences on religious development during adolescence and young adulthood. It is also important to study the effects of the neighborhood context on religious development over time. This is especially true for ethnic minority adolescents such as African Americans, since they are more likely to be raised and exposed to poverty, neighborhood disorder, community violence and racial discrimination (Riina, Martin, Gardner, & Brooks-Gunn, 2013). These factors can lead to violence and substance abuse among African American adolescents which could lead to internalizing and externalizing behaviors such as depression, anxiety, and delinquency (Chung & Steinberg, 2006; Gapen et al., 2011; Riina, Martin, Gardner, & Brooks-Gunn, 2013). The African American church is often considered an important institution in the community, as it provides education, financial assistance, and social support beyond the spiritual foundation. Research has shown that African Americans’ religion and spirituality can offer them support to overcome the negative effects of neighborhood disorder (Gapen et al., 2011; Riina, Martin, Gardner, & Brooks-Gunn, 2013; Lamis, Wilson, Tarantino, Landsford, & Kaslow, 2014). Formal

kinship and spirituality along with other support can buffer the negative effects of community violence among African American adolescents (Jones, 2007).

**Neighborhood disorder.** Although research has documented the effect of neighborhood disorder and religion on adolescents' delinquent behavior, limited research has been done on whether neighborhood factors are also associated with African Americans' religious development during adolescence and young adulthood.

*Neighborhood disorder* can be defined as reflecting the lack of order and control in the neighborhood (Skogan, 1990). Current research has identified potential pathways through which neighborhood disorder may influence adolescent development in terms of religiosity. Researchers have suggested that the influence of neighborhood disorder on adolescent religiosity may be through parents and peers, the two primary influences on religious development. Research has found that neighborhood disorder affects parenting practices (Simons, Lin, Gordon, Brody, & Conger, 2002; Leventhal, Dupéré, & Brooks-Gunn, 2009; Lamis, Wilso, Tarantino, Landsford, & Kaslow, 2014), and in turn it can deter adolescents' involvement in delinquent behaviors and affiliation with deviant peers (Simons, Burt, Brody, & Cutrona, 2005; Chun & Steinberg, 2006). For instance, highly spiritual African American fathers may be more likely to use proactive parenting practices to decrease their child's exposure to community violence in high-violence neighborhoods, and they are also more likely to use authoritative parenting styles with their sons (Letiecq, 2007). Caughy, Nettles, O'Campo, and Lohrfink (2006) found racial socialization practices varied by neighborhood characteristics especially among African American families. Specifically, they found that parental messages emphasizing racism and the promotion of racial mistrust were positively associated with living in

neighborhoods characterized by physical disorder (i.e., the frequency of neighborhood problems such as drug dealers, gangs, graffiti, etc.), fear of retaliation (i.e., individual would become angry and yell or retaliate if his or her behavior was corrected by someone else), and fear of victimization (i.e., worried that one was about being the victim of a property or personal crime).

The *norms and collective efficacy* model is based on social organization theory, specifically collective efficacy theory (Sampson et al., 1997; Leventhal, Dupéré, & Brooks-Gunn, 2009). Collective efficacy can be defined as “the extent of community-level social connections including mutual trust, shared values among residents, and residents’ willingness to intervene on behalf of community” (Leventhal, Dupéré, & Brooks-Gunn, 2009, p.424). The theory suggests that collective efficacy controls the ability of communities to monitor residents’ behavior in line with social norms and to retain public order. Both formal and informal community institutions act as regulatory mechanisms to monitor residents’ behavior, especially peer groups and physical threats. Adolescents in the neighborhood are more likely to engage in delinquent behaviors when community disadvantage and social disorganization are present. Moreover, research has found that neighborhood disadvantage and delinquency can also be indirectly related through affiliation with deviant peers (Caputo, 2004; Brody, Ge, Conger, Gibbons, & Murry, 2001; Ge, Brody, Conger, Simons, & Murry, 2002).

Findings from current research on neighborhood disorder suggests that focusing on only one of the aforementioned perspectives might oversimplify models of understanding neighborhood effects on adolescents’ delinquency. Rankin and Quane (2002) found that the effects of neighborhood social functioning on antisocial behaviors

are transmitted through affiliation with deviant peers. However, results from Chung and Steinberg's (2010) study found that both parenting behavior and affiliation with deviant peers mediated the relationship between neighborhood disorders and adolescents' delinquency cross-sectionally.

Limited research has examined the relationships between neighborhood disorder and religiosity. Using African American adolescents' data from the National Youth Survey, Johnson, Jang, Li, and Larson (2000) found individual's religious involvement partially mediated the effects of neighborhood disorder on crime among African American adolescents. In addition, African American adolescents' involvement in religious institutions moderated the effects of neighborhood disorder on serious crime (i.e., felony assault, robbery, and felony theft). Specifically, the detrimental effects of neighborhood disorder on serious crime were not as great when African American adolescents were actively involved in church. Jang and Johnson (2001) hypothesized that adolescents living in a disordered neighborhood are less likely to be religious than those living in neighborhoods that are high in social organization, because neighborhood disorder can weaken adolescents' attachment to their neighborhoods and community institutions such as the church. They found that individual religiosity partially mediated the effects of neighborhood disorder on adolescents' substance use. Specifically, living in a neighborhood characterized by social and physical disorder increased adolescents' use of illicit drugs. When individual's religiosity and its interactions with age were added to the model, the neighborhood effect on marijuana use remained significant but the magnitude of its effect was decreased by 27% (from .48 to .35), whereas the effects on



hard-drug use were reduced by 33% (from .06 to .04), becoming nonsignificant (Jang & Johnson, 2001).

In summary, research has shown African American adolescents' religious involvement can buffer the detrimental effects of neighborhood disorder on delinquent behavior and youth crime. However, previous research has not yet examined how neighborhood characteristics may influence African American adolescent's religious development. Therefore, the present study examined whether neighborhood disorder has an influence on African American adolescents' religious development during the transition into young adulthood. Based on previous research regarding pathways through which neighborhood effects are transmitted to adolescents, the present study hypothesized that parenting behaviors and affiliation with deviant peers may partially mediate the effect of neighborhood disorder on African American adolescents' religious development over time.

**Neighborhood cohesion.** Limited research has been done on the effect of community cohesion on African American adolescents, as many African American adolescents often live in neighborhoods that are high in crime and violence, low in social cohesion, and high in delinquent peer groups compared to their Caucasian counterparts (Leventhal, Dupéré, & Brooks-Gunn, 2009). Community cohesion can be defined as the extent of social connections within the neighborhood (Leventhal, Dupéré, & Brooks-Gunn, 2009). Having high levels of community cohesion can be beneficial to African American families. For instance, neighborhood support was found to be a protective factor for mental health, education attainment, and educational goals (Stewart, Stewart, & Simons, 2007; Barrow, Armstrong, Vargo, & Boothroyd, 2008; Cooper, Brown, Metzger,

Clinton, & Guthrie, 2013). Outside of the family, African Americans often bond with individuals in the community and churches, which in turn become one of their important social support networks. For example, Chatters, Taylor, Lincoln, and Schroepfer (2002) found more than half of their African American participants reported receiving assistance from both family and church networks. Churches are often social institutions that play an important role in addressing various support needs in African American communities through social welfare initiatives, community-based programs, educational development, and civic engagement (Brown, 2008; Belgrave & Berry, 2016). The church has historically been a safe and supportive community organization for African Americans that fosters spiritual development and community cohesion, providing leadership for the community and role models for African American adolescents in the struggle against oppression and racial discrimination (Barrow, Armstrong, Vargo, & Boothroyd, 2008; Brown, 2008). Therefore, the present study hypothesized that high levels of community cohesion surrounding the African American adolescent would continue to foster his or her religious development over time.

In summary, the neighborhood context has a significant impact on the psychosocial well-being of African American adolescents, both positively and negatively. The community context is important in providing social support for African American adolescents. Previous search has shown the importance of the church and its leadership in many African American families. The present study expands on previous research regarding the impact of the neighborhood context on African American adolescents by also examining the effects of neighborhood disorder and community

cohesion on the trajectories of religious development among African American adolescents and young adults.

### **Present Investigation**

Despite the important role of religion in coping with stress among African American adolescents, little research has been done that examines how religiosity changes during adolescence and the transition to young adulthood. While most of the previous research on religious behavior treated religiosity as a predictor of behaviors and values such as substance use and delinquent behaviors, limited research has been done to understand the role of relationships with family and friends as well as characteristics of the neighborhoods where they reside in influencing religious development. The present study treated religiosity as the dependent variable and used growth curve modeling to examine changes in religiosity among African Americans during the transition from adolescence to young adulthood using six waves of data from the FACHS investigation. I also investigated whether parents and peers as well as neighborhood characteristics impact religious development (see Figure 1).

The present study examined the two developmental periods separately (Waves 1 to 3 for adolescence, and Waves 4 to 6 for young adulthood). One reason this was done involved the possibility that African Americans may show different patterns of change in religious development during adolescence and young adulthood. Second, this analytical approach was used because some targets discontinued participation in the study, which led to different sample sizes between the two developmental periods. Finally, some of the predictor variables were not assessed until participants reached young adulthood in Wave

4 of the FACHS investigation, these factors could only be included as predictors in the young adulthood models.

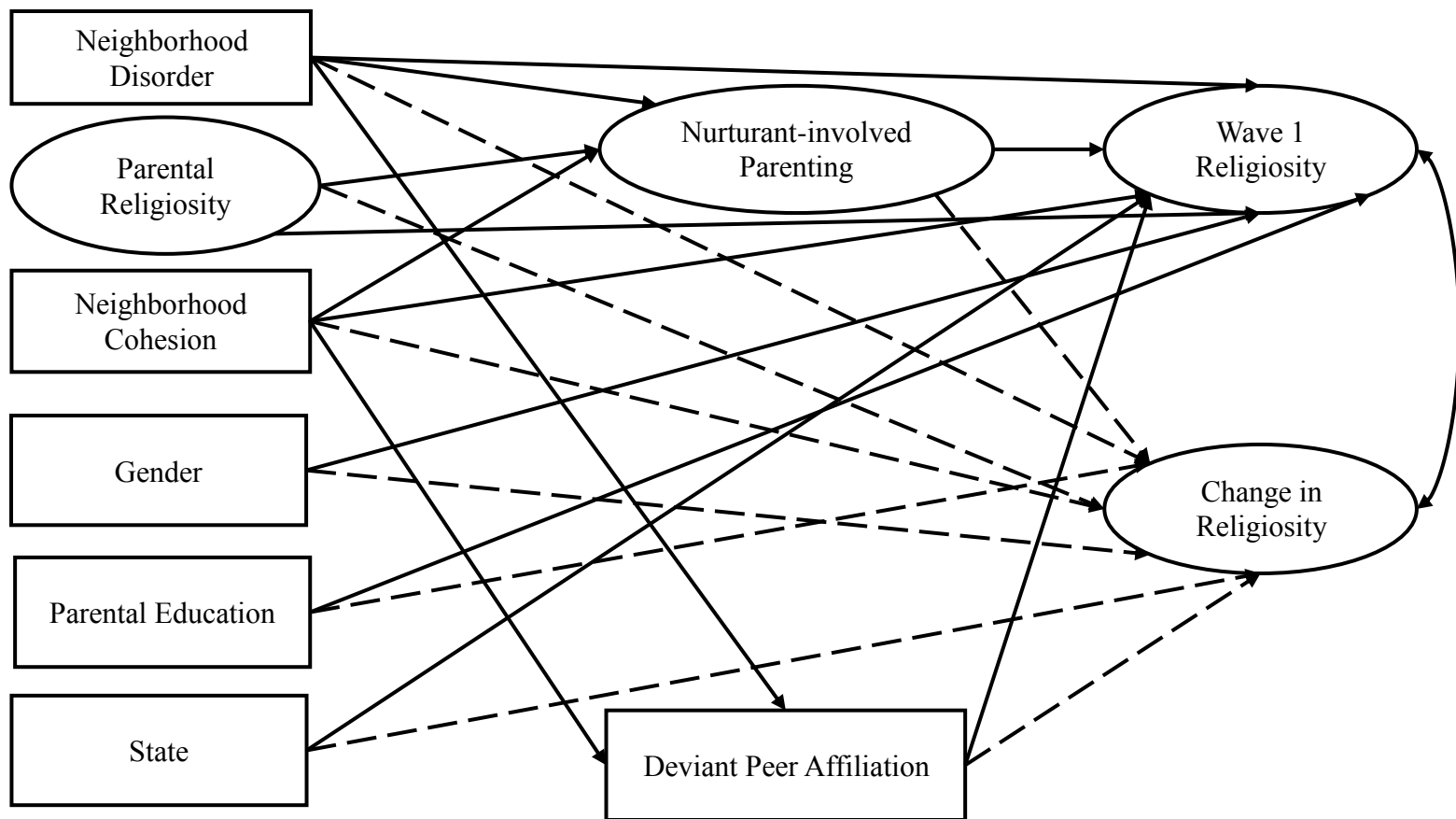
### Hypotheses

Based on the existing literature on religious development during adolescence and young adulthood, the present study proposed that (see Figure 1 and 2):

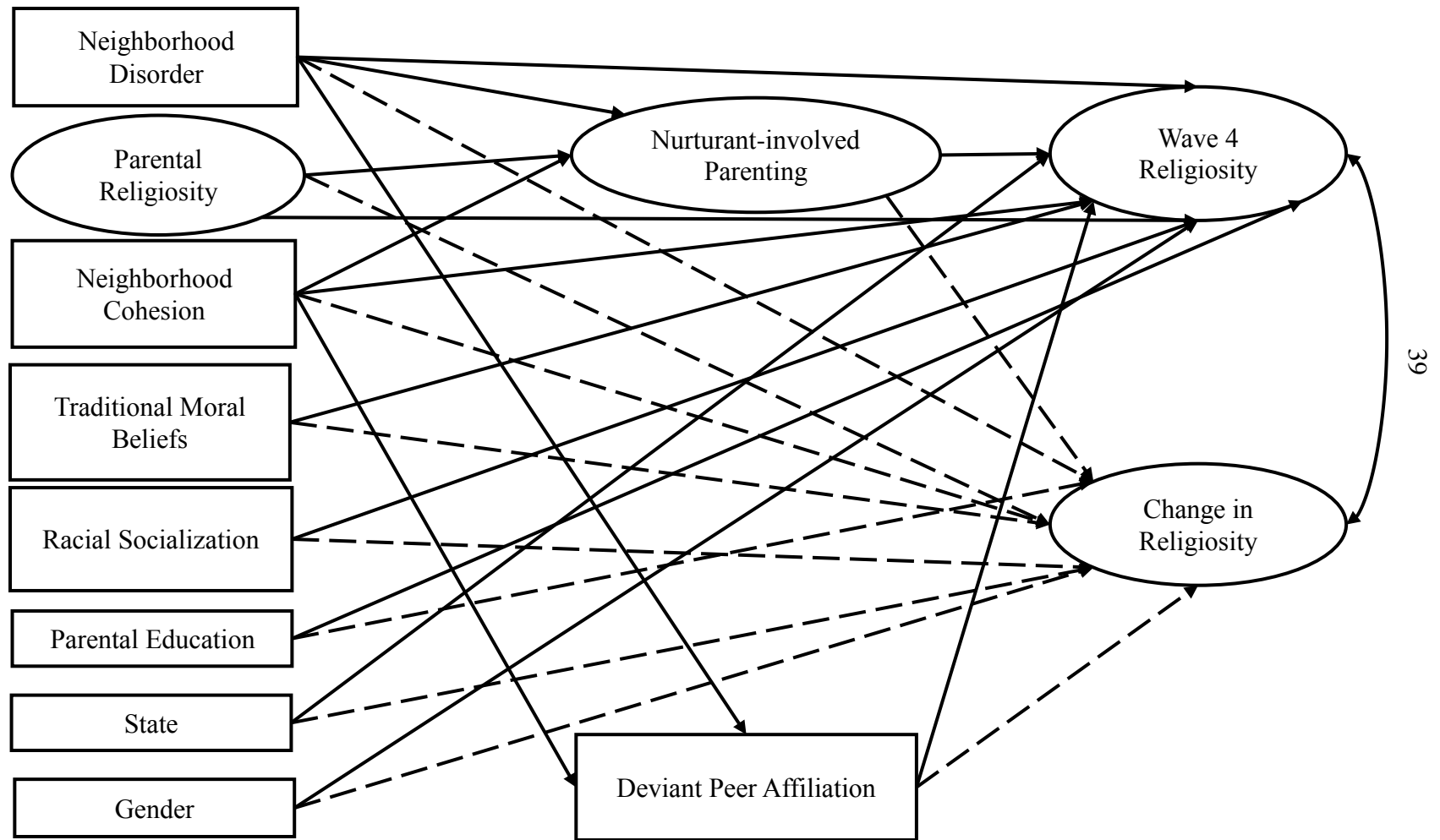
1. There will be significant individual variability in the initial level of church attendance (i.e., some people attend church more often than others) and the importance of religion (i.e., some people rate religion being more important in their lives than others).
2. There will be a decrease in church attendance and the importance of religion over time along with significant individual variability in the frequency of church attendance (i.e., some individuals will decrease in church attendance faster than others) and the importance of religion (i.e., some individuals will experience a faster decline in the importance of religion than others)
3. Adolescents with stronger traditional moral beliefs will report both higher initial levels of church attendance and the importance of religion as well as decline more slowly with respect to changes in the importance of religion and frequency of church attendance.
4. Adolescents experiencing higher levels of perceived discrimination will report both higher initial levels of church attendance and importance of religion, based on previous research indicating African Americans use religion as a resource for coping with perceived discrimination

5. Parental religiosity will be positively associated with the initial level of church attendance and the importance of religion, and the importance of religion and frequency of church attendance will decline more slowly for those adolescents reporting higher levels of parental religiosity.
6. Parental religiosity will be positively associated with nurturant-involved parenting, in which nurturant-involved parenting will mediate the relationship between parental religiosity and the initial level of church attendance and the importance of religion. Similarly, the importance of religion and frequency of church attendance will decline more slowly for those adolescents who received nurturant-involved parenting from their primary caregivers.
7. Racial socialization will be positively associated with initial level of church attendance and the importance of religion, and it will slow the decline in both church attendance and the importance of religion over time.
8. Involvement in deviant peer groups will be negatively associated with the initial level of church attendance and the importance of religion, and it will increase the rate of decline in church attendance and importance of religion over time.
9. Higher levels of neighborhood disorder will be negatively associated with the initial level of church attendance and the importance of religion, and it will increase the rate of decline in church attendance and the importance of religion over time.

10. Higher levels of community cohesion will be positively associated with the initial level of church attendance and the importance of religion, and it will decrease the rate of decline in church attendance and the importance of religion over time.
11. Based on previous research on potential pathways through which neighborhood characteristics can be transmitted to adolescents, the present study hypothesizes that the relationship between neighborhood characteristics (i.e., neighborhood disorder and community cohesion) and change in religious development over time will be mediated by both parental influence and parenting behaviors as well as affiliation with deviant peers.



*Figure 1.* Conceptual Model for Adolescence. Solid lines represent prediction to initial religiosity, while dashed lines represent prediction to change in religiosity.



*Figure 2.* Conceptual Model for Young Adulthood. Solid lines represent prediction to initial religiosity, while dashed lines represent prediction to change in religiosity.



## CHAPTER 3: METHODOLOGY

### **Sample**

This study employed data from the Family and Community Health Study (FACHS) in testing the proposed model (see Figures 1 and 2). FACHS is a multisite longitudinal study that investigates neighborhood factors, resiliency and vulnerability in African American families. The sample consists of 889 African American families from Georgia (N=422) and Iowa (N=475), where the primary caregiver (the person living in the same household as the child and primarily responsible for his or her care) lived with a child between the age of 10 and 12 years during the initial wave of data collection in 1997 (Wave 1). Families were re-interviewed in 1999 (Wave 2), 2002 (Wave 3), 2005 (Wave 4), 2008 (Wave 5), and 2010 (Wave 6). The interval between Wave 1 and Wave 2 was approximately 2 years, Wave 2 and Wave 3 was approximately 3 years, Wave 3 to Wave 4 was approximately 3 years, Wave 4 to Wave 5 was approximately 3 years, and there was approximately 2 to 3 years between assessments from Wave 5 to Wave 6. In Wave 3, the target adolescents were between ages of 15 and 16 years; in Wave 4 the targets were between 18 and 19 years of age. Seventy-one percent of eligible families from the two states completed the initial interviews. Of the 889 families, 779 (87%) remained in the sample at Wave 2, 767 (86%) were interviewed in Wave 3, 714 (80%) participated in Wave 4, 689 (77%) participated in Wave 5, and 699 (78%) were interviewed in Wave 6. For the present study, data from Waves 1 to 6 were used in the

analysis, where the targets age ranged from 10 years old in Wave 1 to 26 years in Wave 6, reflected a 13 year time span.

### **Procedure**

As previously mentioned, FACHS began with the goal of investigating effects of neighborhood characteristics on the functioning of adults and children. Therefore, using 1990 census data, block group areas (BGAs) were identified in Iowa and Georgia in which the percent of African American families was high enough to make recruitment economically viable (i.e., African Americans represented 10% or higher of the population) and the percent of families with children living below the poverty line varied widely. However, recruitment strategies were different between Iowa and Georgia. For Iowa, two urban areas were identified with BGAs that met the criteria for the proportion of African American residents: Des Moines (with a population of 193,000) and Waterloo (with a population of 65,000). African American families with children between the age of 10 and 12 years were identified through public school records with the names and addresses of all African American students in grades four through six. Only a small percentage (3%) of African American students in Iowa attended nonpublic schools at that time; therefore, such a recruitment strategy should not lead to a significant bias for the Iowa sample.

For Georgia, BGAs in northeast Georgia that excluded inner-city Atlanta and met the criteria for racial composition and extent of poverty were identified. FACHS drew from small towns and rural areas in 12 counties surrounding Atlanta. It should be noted that some participants were from Athens and the suburbs of Atlanta. Within each BGA, community members who agreed to serve as liaisons between the University of Georgia

researchers and the residents were identified. Based on their own knowledge and information from parents, teachers, pastors, youth groups and community organizations, the community liaisons compiled rosters of children within each BGA that met the sampling criteria. Families were randomly selected from these rosters and contacted to determine their interest in participating in the study. Families who declined participation were removed from the rosters, and other families were randomly selected until the required number of families from each BGA had been recruited.

All interview procedures were approved by the Iowa State University and University of Georgia Institutional Review Boards, with written informed consent being obtained from all participants (both the primary caregiver and the adolescent) prior to the first home visit. Before data collection began, four focus groups in Georgia and four focus groups in Iowa examined and critiqued the questionnaires designed for the study. All interviewers for both focus groups and data collection were African American, most of whom resided in or near the communities where the study was conducted. Each focus group interview consisted of ten African American women, for a total of 80 women across 8 focus groups, who lived in neighborhoods similar to those from which the study participants were recruited. Focus group participants suggested modification to the questionnaire items that they perceived to be culturally insensitive, intrusive, or unclear. Revisions to the questionnaire were made based on feedback from the focus group participants. The questionnaire was then pilot tested with eight African American families from each state, for a total of sixteen families who participated in the pilot study. As the researchers conducted the pilot study they recorded detailed notes regarding

participants' reactions to the questionnaire items, and made further modifications to the questionnaire as needed.

Data for Wave 1 of the study were collected via questionnaires in Georgia and Iowa using identical procedures. To enhance rapport and cultural understanding, African American university students and community members (who either resided in or near the communities where the study was conducted) served as field researchers to collect data from families in their homes or in a convenient location near their home (e.g., library, school, church). Interviewers received one month of training in the administration of the self-report questionnaire before data collection. Two home visits, each of which lasted from 2.5-3.5 hours, were made to the family within a seven day period as the family's schedules allowed. At each visit self-report questionnaires were administered to the caregiver and the child in interview format. Each interview was conducted privately between the participant and an interviewer without any other family members being present. The questionnaire was presented on laptop computers via computer assisted personal interviews (CAPI), with questions appearing in sequence on the screen. The researcher read each question aloud and entered the participant's response immediately using the computer keypad, where the participant could also see the computer screen. In later waves of data collection, recorded questions were self-administered for sensitive topics.

**Parenting behavior.** During the home visits in which questionnaires were administered, a video-recorded assessment of parenting behaviors of the Primary Caregiver toward the adolescent child was conducted (Conger, Wallace, Sun, Simons, McLoyd, & Brody, 2002). A 20-min task was used to assess parenting behavior between

the primary caregiver and the adolescent child. The interviewers provided family members with instructions, set up and started the video equipment, and gave participants a set of cards that contained the discussion questions. The interviewer then left the room so they could not hear the discussion. The questions on the cards asked the primary caregiver and the adolescent child to discuss a range of issues in their daily lives, such as pleasurable activities they do together and how they handle conflicts and disagreements. The videotaped discussions occurred in a location that provided as much as privacy as possible.

All videotaped interactions were coded with the Iowa Family Interaction Rating Scales (IFIRS; Melby & Conger, 2001). Video-recorded behaviors were rated by African American observers. Prior to rating the video-recorded behaviors, all observers received approximately 12 weeks (240 hours) of training to learn and apply scale definitions from the IFIRS. To complete the training, the observer had to pass both written tests (with at least 90% correct responses) and viewing tests (utilizing pre-coded criterion tapes). Moreover, observers participated in weekly meetings involving the entire coding staff to ensure that coding definitions remained consistent over time. Finally, 25% of all tapes were randomly selected and rated by a second independent observer to evaluate inter-observer reliability by comparing the scores between the primary and secondary independent observer. Their scores were used to calculate an intra-class correlation coefficient that reflected the level of inter-rater agreement.

## **Measures**

A wide range of questionnaires were administered to participants. The present study included the following variables for testing the hypothesized model for both

adolescence and young adulthood: adolescent religiosity, parental religiosity, parenting behaviors, perceived discrimination, affiliation with deviant peers, racial socialization, neighborhood disorder, and neighborhood cohesion. Description of each variable is provided below.

**Church attendance (Waves 1 to 6, Target report).** Target's church attendance was measured from Wave 1 to Wave 6 using a one-item variable that asked participants to report how often in the past month they attended church services, from 1 (*never*) to 5 (*daily*), with higher scores indicating more frequent church attendance.

**Importance of religion (Waves 1 to 6, Target report).** The importance of religion was measured from Wave 1 to Wave 6 using a one-item variable that asked participants to report how important religious or spiritual beliefs are in their daily life. This single item was rated using a 4-point scale, ranging from 1 (*very important*) to 4 (*not at all important*), with higher scores indicating lower levels of religious importance. The item was reverse-coded for the present study, so that higher scores indicated greater religious importance in the target's daily life.

**Church Group Discussion (Waves 1 to 6, Target report).** The target's other religious involvement was measured from Wave 1 to Wave 6 using a one-item variable that asked participants to report how often in the past month they attended Sunday School, a class, or discussion group on religion. The item was rated using a 5-point scale, from 1 (*never*) to 5 (*daily*), with higher scores indicating greater religious involvement.

**Perceived discrimination (Waves 1 and 4, Target report).** Perceived discrimination was measured using a 13-item scale developed by Simons et al. (1995) specifically for FACHS. Items were rated on a 4-point Likert scale, ranging from *never*

(1) to *several times* (4) in Waves 1. In Wave 4, the coding scheme was changed to *never* (1) to *frequently* (4). Examples of items include the following: “*How often has someone said something insulting to you just because you are African American?*”, “*How often has a store owner, sales clerk, or person working at a place of business treated you in a disrespectful way just because you are African American?*”, and “*How often has someone yelled a racial slur or racial insult at you just because you are African American?*”.

Items were then summed together, with higher scores indicating higher levels of perceived discrimination being experienced (Wave 1:  $\alpha = .86$ ; Wave 4:  $\alpha = .91$ ).

**Traditional moral beliefs (Wave 4, Target report).** Adolescent’s moral beliefs were assessed using 14 items that were asked of the target youth in Wave 4. Participants were asked to rate how wrong they thought it was for someone their age to engage in behaviors such as using marijuana, lying to teachers or parents, sell marijuana or other illegal drugs, and cheating on their romantic partner. The coding scheme was from *not at all wrong* (1) to *very wrong* (4). Responses to the items were then summed together, with higher scores indicating higher levels of traditional moral beliefs ( $\alpha = .85$ ).

**Deviant peer affiliation (Waves 1 and 4, Target report).** Affiliation with deviant peers was obtained using 16 items that asked participants how many of their close friends engaged in violent behaviors, substance abuse, or behaviors such as ran away from home, skipped school without an excuse, purposely damaged or destroyed property that did not belong to them, stole something worth less than \$25/50 and more than \$25/50, had gone joyriding, had sex, hit someone with the idea of hurting them, had used tobacco, illegal drug, or alcohol. All items were rated using a 3-point scale that ranged from *none of them* (1) to *all of them* (3). A composite score of friends’ deviant behaviors

was calculated by adding responses to the items, with higher scores indicating more affiliation with deviant peers (Wave 1:  $\alpha = .88$ ; Wave 4:  $\alpha = .85$ ).

**Parental religiosity (Waves 1 and 3, Parent report).** A three-indicator latent religiosity variable for the primary caregiver was assessed with three measures. First, parents' religious involvement was measured by using the Religiosity Scale developed by Simons et al. (1995) for FACHS from Wave 1 to Wave 3. The scale asked how often in the previous month was the primary caregiver involved in the following religious activities: (1) attended church services, (2) attended social events with other members of their church, (3) led a religious service, (4) taught Sunday school or a class on religion, and (5) attended a class or discussion group in religion. The response options ranged from 1 (*never*) to 5 (*daily*), with higher scores indicating more religious involvement (Wave 1:  $\alpha = .78$ ; Wave 3:  $\alpha = .82$ ). Second, the target's primary caregiver was also asked to report how important religious or spiritual beliefs are in their daily life from Waves 1 to 3. The single item was rated using a 4-point scale, ranging from 1 (*very important*) to 4 (*not at all important*), with higher scores indicating lower levels of religious importance. The item was reverse-coded for the present study, so that higher scores indicated greater importance of religion in their daily life. Finally, parent's use of religious coping was assessed by a single item: "*When you have problems or difficulties in your family, work, or personal life, how often do you seek spiritual comfort and support?*". The single item was originally rated using a 3-point scale, ranging from 1 (*often*) to 3 (*never*), with higher scores indicating lower levels of religious coping. The item was reverse-coded for the present study, so that a higher score indicated greater use of religious coping in their daily life.



In Wave 3, the Subjective Religiosity Subscale of a multidimensional measure of religious involvement developed by Levin, Taylor, and Chatters (1995) for African Americans was also administered from Waves 3. The subscale consists of the following three questions that were asked of the targets' primary caregiver: "*How religious would you say you are?*", "*How important was religion in your home when you were growing up?*", and "*How important is it for African American parents to send or take their children to religious services?*". The first item was responded to using a 4-point scale that ranged from 1 (*very religious*) to 4 (*not at all religious*). The other items were responded to using a 4-point scale that ranged from 1 (*very important*) to 4 (*not at all important*). All items were reverse coded before they are combined to compute a composite score for analyses, such that higher scores indicate higher levels of religiosity ( $\alpha = .52$ ).

**Racial socialization (Wave 4, Target report).** The Racial socialization variable was measured using three subscales adapted from instruments used by Hughes and Johnson (2001). Items were originally developed from stories and events described by African American parents in a study where focus group interviews were conducted (Hughes & Dumont, 2003). Items measure the frequency of various familial behaviors and communication to children regarding the issue of race and ethnicity. Wave 4 racial socialization was utilized in the present study, where the target youth indicated the number of times their friends and family engaged in the specific behaviors during the previous 12 months on a 5-point scale, from *never* (1) to *10 or more times* (5). All three subscales from the racial socialization measure were used in the present study. Each of them is described below.

First, *Cultural education* consists of five items asking about activities or communication that highlighted African American culture and history or promoted black pride (e.g., “How often within the past year have the adults in your family celebrated cultural holidays of your racial group?”, “How often within the past year have the adults in your family talked to you about important people or events in the history of your racial group?”;  $\alpha = .85$ ). Second, *Discrimination Warnings* contained six questions about familial messages regarding the probability of racial discrimination (e.g., “How often within the past year have the adults in your family indicated that people might limit you because of your race?”, “How often within the past year have the adults in your family indicated that some people might treat you badly or unfairly because of your race?”;  $\alpha = .91$ ).

Third, *Promotion of Mistrust* contained four questions assessing whether family members had warned respondents to be wary and cautious in their dealings with other racial groups (e.g., “How often within the past year have the adults in your family talked to you about how you can't trust people your age from other racial or ethnic groups?”, “How often within the past year have the adults in your family encouraged you to keep your distance from people your age of a race or ethnicity that differs from yours?”;  $\alpha = .83$ ).

Finally, *Coping with Discrimination* consisted of three items developed by FACHS asking about family members' communications regarding ways to limit the impact of discriminations on their lives (e.g., “How often within the past year have the adults in your family talked about ways of overcoming prejudice and discrimination?”,

“How often within the past year have the adults in your family indicated that prejudice and discrimination should not prevent you from being a success in life?”;  $\alpha = .84$ ).

**Nurturant-involved parenting (Waves 1 and 3, Parent report, Target report, and Observer report).** Information regarding primary caregiver’s parenting behavior toward the adolescent child came from three sources: trained observers, primary caregivers, and the adolescent child. These measures produced three indicators for the parenting behavior construct: (1) low hostility and harshness, (2) high warmth and (3) child management. First, observers rated primary caregivers on the degree of hostility, escalation of hostility, verbal attack, antisocial behavior, and coerciveness toward the adolescent child on a scale from 1 (*no evidence of these characteristics*) to 9 (*high levels of these characteristics*). These items were reverse coded so that higher scores reflects low hostility. The intra-class correlation for the hostility measure was .69. The adolescent children also rated the primary caregiver hostility by indicating on a scale from 1 (*always*) to 4 (*never*) how often the primary caregiver engaged in seven different hostile behaviors during the previous 12 months (e.g., criticizing or getting angry), where lower scores indicated less hostility. Both the observer and target items were standardized and summed to form a composite score of primary caregiver hostility in interactions with the child.

To evaluate warmth, observers used four separate 9-point scales of primary caregiver behavior toward the adolescent child: warmth/support, listener responsiveness, prosocial behavior, and positive communication. Higher scores on these items indicate higher warmth and support behavior towards their adolescent child. The intra-class correlation for the warmth measure was .73. The target children also indicated how often

the primary caregiver engaged in nine different supportive behaviors during the past year (e.g. helping the target or being affectionate), ranged from 1 (*always*) to 4 (*never*). Items were reverse-coded for the present study, so that higher scores indicate higher levels of warmth/support. Both the observer and target items were standardized and summed to form a composite score of primary caregiver warm and support in interaction with the child.

Finally, observers also rated primary caregiver's management skills on the following dimensions from 1 (*low*) to 9 (*high*): monitoring, consistent discipline, quality time with the child, use of inductive reasoning, neglecting-distancing, lecturing-moralizing, interrogation, denial, positive reinforcement, and harsh discipline. Inter-observer reliability for the summed scale was adequate (.65). Both the adolescent child and primary caregiver also rated management skills on 22 items that assessed monitoring, consistent discipline, communication, inductive reasoning, and positive reinforcement, ranged from 1 (*never*) to 4 (*always*). Then, observer, the adolescent child, and the primary caregiver ratings were standardized and summed to form the indicator of parental management.

In the analyses that were used to evaluate the conceptual model, the measures of warmth and management were coded such that high scores reflected high warmth and management, whereas the measures of hostility was coded such that high scores reflect low hostility, consistent with the model shown in Figure 1. The three composite scores served as the three measured indicators for the latent nurturant-involved parenting variable. Conger, Wallace, Sun, Simons, McLoyd, and Brody (2002) used this latent parenting variable as part of replicating the Family Stress Model for the African

American sample, in which low nurturant-involved parenting was part of their conceptual model. Conger et al. (2002) found that low nurturant-involved parenting was negatively associated with child positive adjustment among the FACHS sample.

Since the observational data on parenting behavior was not collected in Wave 3, only parent- and target-reports from Wave 3 regarding parenting behavior were included in the data analyses when assessing young adults' religious trajectories for each indicator of the latent parenting variable. In addition, items on the parents' report of their warmth and hostility towards their target young adults were not asked in Wave 3. Thus, only target reports of their primary caregiver's warmth and hostility were included for the warmth and low hostility indicators in the present study.

**Neighborhood cohesion (Waves 1 and 3, Parent report).** Neighborhood cohesion was assessed using the community cohesion scale developed by Sampson, Raudenbush, and Earls (1997). A total of 15 items were administered to the targets' primary caregiver in Waves 1 to 3. Examples of the items included: "*When there was a problem, the people in the area got together and dealt with it*", "*The people in the area were a fairly close-knit group*", and "*When you get right down to it, no one in the area really cared much about what happened to anyone else*". Respondents indicated whether the statement was *very true* (1) to *not at all true* (3). Positively worded items were reverse-coded, and items were standardized before computing a composite, with higher scores indicating greater neighborhood cohesion (Wave 1:  $\alpha = .83$ ; Wave 3:  $\alpha = .88$ ).

**Neighborhood disorder (Waves 1 and 3, Target report).** Community social disorder was measured using six items adapted from Sampson, Raudenbush, and Earls (1997) that were asked in both Waves 1 and 3. The adolescents were asked to rate how

often the following events have happened in the neighborhood where they have lived for most of the past 12 months: a fight in neighborhood in which a weapon like a gun or knife was used, a violent argument between neighbors, a gang fight, sexual assault or rape, robbery or mugging, and a murder. Items were originally coded from *often* (1) to *never* (3). Items were reverse-coded before computing a composite score for the present study, with higher scores indicating greater levels of community social disorder (Wave 1:  $\alpha = .74$ ; Wave 3:  $\alpha = .82$ ).

**Covariates (Waves 1 and 3).** Target's gender (*females* = 0; *males* = 1) was included as a predictor variable, as previous research has found gender differences in religiosity; African American women typically reporting more religious involvement than men (Gunnore & Moore, 2002; Taylor, Chatters, & Levin, 2004). Parental education was also included in the analyses, as previous research has found differences in church attendance by levels of education (Taylor, Chatters, & Brown, 2014). Target's state location (Georgia = 0; Iowa = 1) was also included in the analyses, since research has shown there are geographic differences in the levels of religiosity among adolescents (Smith & Denton, 2005).

Finally, parental education was controlled through a single item asking the highest level of education he/she had completed during the data collection period. Item was originally coded (0) *Kindergarten, no grade completed*; (1-11) *Grade completed below 12th, grade in now*; (12) *High school grad or GED*; (13) *1 year college, vocational, or tech training*; (14) *2 years college, vocational, or tech training*; (15) *3 years college, vocational, or tech training*; (16) *BS, BA*; (17) *Bachelor's plus*; (18) *MS*,

*MA, Chiropractic with a BA/BS; (19) Master's plus; and (20) PhD, JD, DDS, MD, DVM, etc.*

Due to the small sample in the *Master's plus* and *PhD, JD, DDS, MD, DVM, etc.* categories, the item was then recoded so that (0) *Kindergarten, no grade completed*; (1-11) *Grade completed below 12th, grade in now*; (12) *High school grad or GED*; (13) *1 year college, vocational, or tech training*; (14) *2 years college, vocational, or tech training*; (15) *3 years college, vocational, or tech training*; (16) *BS, BA, Bachelor's plus*; (17) *MS, MA, Chiropractic with a BA/BS, Master's plus, and PhD, JD, DDS, MD, DVM, etc.* Thus, higher number would indicate higher levels of education.

### **Analytical Approach**

The present study conducted separate analyses of the data during adolescence and young adulthood due to the following reasons: First, there could be different patterns of change in religious development between the two developmental periods. In addition, the number of cases for the two developmental periods could be different due to some targets discontinuing participation in the study during the six waves of data collection. Finally, because some of the predictor variables were not assessed until participants reached young adulthood in Wave 4, these factors were only be included as predictors in the young adulthood models.

The first step in testing the model shown in Figure 1 and Figure 2 was to evaluate the measurement model. Analyses were conducted based on the covariances among the variables. The measurement model was tested with the maximum likelihood estimation (MLR) with robust standard errors procedure in the Mplus 7.31 program. In traditional growth curve analyses time is a fixed variable, in which every participant has the same

value for each wave of data collection. However, time between assessments is typically not the same. As presented earlier, the data collection for FACHS was at fixed occasions, but the individuals have different ages during each wave of data collection. Therefore, the ages of the target adolescents in each wave were used as the time variable rather than fixed waves of data collection to reflect the target's age. Two of the variables in the model (parental religiosity and nurturant-involved parenting) were specified as latent variables. The remaining variables in the model (perceived discrimination, affiliation with deviant peers, neighborhood cohesion and disorder, as well as racial socialization and traditional moral beliefs for young adulthood models) were specified as measured or manifest variables. Target's gender and state of residence were treated as categorical measures in the analysis.

Second, the direct effect of the predictors on church attendance, church group discussion, and importance of religion at Wave 1, as well as the effect of the predictors on the rates of change in church attendance church group discussion as well as the importance of religion over time were examined. Specifically, parental religiosity, nurturant-involved parenting, perceived discrimination, deviant peer affiliation, neighborhood cohesion, neighborhood disorder were included in the adolescences models. For young adulthood models, traditional moral beliefs and types of racial socialization were added to the models. Finally, mediating effects of nurturant-involved parenting and affiliation with deviant peers on neighborhood predictors and initial level religiosity, as well as the linear change over time were examined in both adolescence and young adulthood.



## CHAPTER 4: RESULTS

### **Sample Characteristics**

When the target participants were first assessed in 1997, 889 families participated in the study. Table 1 presents demographic characteristics of the FACHS sample. Of the 889 target adolescents, 53.8% of the sample was female and 46.2% was male. Regarding location of the sample, 47.5% of the families lived in Georgia and 52.5% lived in Iowa. At Wave 1, the majority of the participants indicated they were Protestants (62.5%) whereas the other religious affiliations only applied to a small minority of the participants. When the target adolescents were re-interviewed at Wave 4, 714 of the adolescents participated in the study; 56.2% of these participants were female and 43.8% were male. At that time 49.4% of the families lived in Georgia and 50.6% lived in Iowa. As reported in Table 1 target participants' average age ranged from 10.56 years at Wave 1 to 23.59 at Wave 6.

Descriptive statistics for the measured variables from Waves 1, 3 and 4 that were used in the analyses are presented in Table 2 and Table 3. Due to fewer items being asked to primary caregivers regarding their parenting behaviors beginning at Wave 4, the present study used all parent-related variables from Wave 3 to be consistent with the parenting behavior items that were used at Wave 1. It should be noted that some of the variables employed in the analyses were not administered to the targets until they became young adults at Waves 3 or 4. See Table 4 for the descriptive statistic for the parental reports of their parenting behaviors and their religiosity during both Waves 1 and 3.

Pairwise *t*-tests were conducted using SPSS to examine whether or not there were significant differences on the measured variables between Waves 1 and 3 or between

Waves 1 and Wave 4. Missing data were addressed by excluding cases analysis by analysis, meaning each *t*-test used all cases that have valid data for the dependent variable; as a consequence sample sizes may vary from test to test. Results indicated that target participants reported similar levels of perceived discrimination, deviant peer affiliation, and neighborhood disorder between Waves 1 and 3 or between Waves 1 and 4. The targets reported higher levels of parental monitoring, problem solving, inductive reasoning, and positive reinforcement from their primary caregiver at Wave 3 than Wave 1. In contrast, targets reported lower levels of warmth, hostility and consistent discipline from their primary caregiver at Wave 1 than Wave 3. Similarly, results from the pairwise *t*-tests indicated primary caregivers at Wave 1 and Wave 3 reported similar levels of religious coping, neighborhood cohesion, and problem solving (see Table 4). Primary caregivers reported lower levels of religious involvement at Wave 1 compared to Wave 3. Finally, primary caregivers also reported higher levels of parental monitoring, consistent discipline, and positive reinforcement at Wave 1 than Wave 3. It is important to note that primary caregivers for Wave 1 and Wave 3 might not necessarily be the same between the two waves of interviews.

Table 1

*Demographics from Waves 1 to 6*

Variables	Frequency (%)	Min	Max	<i>M</i>	<i>SD</i>
<b>Target's Religion</b>					
Roman Catholic	14 (1.60)				
Jewish	6 (0.60)				
Muslim	7 (0.80)				
Protestant (e.g., Baptist, Methodist)	554 (62.50)				
Other	120 (13.50)				
None, no preference	138 (15.60)				
<b>Target's Gender</b>					
Female	478 (53.80)				
Male	411 (46.20)				
<b>Target's Age (years)</b>					
Wave 1		9.00	13.00	10.56	.64
Wave 2		11.00	15.00	12.63	.73
Wave 3		14.00	18.00	15.74	.77
Wave 4		16.00	21.00	18.84	.90
Wave 5		19.00	25.00	21.56	.86
Wave 6		21.00	26.00	23.59	.87
<b>Parent's Age (years)</b>					
Wave 1		12.00	87.00	38.31	9.75
Wave 3		18.00	93.00	42.85	9.28
<b>State Location</b>					
	<b>Georgia (%)</b>	<b>Iowa (%)</b>			
Wave 1	422 (47.50)	467 (52.50)			
Wave 2	384 (49.10)	398 (50.90)			
Wave 3	378 (48.00)	409 (52.00)			
Wave 4	353 (49.40)	361 (50.60)			
Wave 5	347 (50.40)	342 (49.60)			
Wave 6	353 (50.50)	346 (49.50)			

*Note.* *N* = 889.

Table 2

*Descriptive Statistics for all Measured Variables reported by the Targets*

<b>Target Variables</b>	<i>M</i>	<i>SD</i>	Min	Max
Perceived Discrimination				
Wave 1	20.69	6.67	7.00	47.00
Wave 4	21.01	7.22	10.00	46.00
Deviant Peer Affiliation				
Wave 1	22.58	4.63	7.00	47.00
Wave 4	21.34	4.32	14.00	48.00
Neighborhood Disorder				
Wave 1	8.28	2.55	3.00	18.00
Wave 3	11.60	3.33	8.00	24.00
Warmth				
Wave 1	27.36***	4.48	8.00	32.00
Wave 3	28.92	6.03	9.00	36.00
Low Hostility				
Wave 1	47.68***	4.88	24.00	56.00
Wave 3	44.88	5.08	18.00	52.00
Parental Monitoring				
Wave 1	16.97***	2.80	7.00	20.00
Wave 3	16.16	3.25	5.00	20.00
Consistent Discipline				
Wave 1	17.16*	3.03	6.00	24.00
Wave 3	17.56	2.88	5.00	24.00
Problem Solving				
Wave 1	6.38**	1.36	1.00	8.00
Wave 3	6.14	1.43	2.00	8.00
Inductive Reasoning				
Wave 1	13.96***	3.66	4.00	20.00
Wave 3	13.21	3.95	3.00	20.00
Positive Reinforcement				
Wave 1	6.56***	1.46	1.00	8.00
Wave 3	6.21	1.56	2.00	8.00

*Note:* Wave 1:  $N = 889$ . Wave 3:  $N = 767$ . Wave 4:  $N = 714$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 3

*Descriptive Statistics for Measured Variables reported by the Targets at Wave 4*

	Min	Max	<i>M</i>	<i>SD</i>
Traditional Moral Beliefs	16.00	52.00	44.99	6.47
<b>Racial Socialization</b>				
Cultural Education	5.00	25.00	10.55	4.40
Discrimination Warnings	6.00	30.00	13.75	6.46
Promotion of Mistrust	2.00	20.00	5.96	2.93
Coping with Discrimination	3.00	15.00	7.51	3.68

*Note:* *N* = 714.

### **Change in Religiosity over Time**

Mean values for church attendance, participation in church group discussions, and the importance of religion at each age are plotted separately for adolescence and young adulthood in Figures 3 to 8 to illustrate how scores on each of these variables changed over time during these two developmental periods. The first three of these figures present mean values for the religiosity measures during adolescence. Both church attendance and participation in church group discussions decreased over time during adolescence, although the frequency of church attendance was slightly higher compared to the frequency of participation in church group discussions. There was a steeper decline from age 16 to 17 for both church attendance and church group discussion. Similarly, the importance of religion also decreased over time during adolescence, but the decline does not appear to be as great as was true for church attendance and church group discussion. Finally, the importance of religion did not have a steeper decline at the end of adolescence, indicating that the African American adolescents in this sample continued to perceive religion as being important in their lives.

Table 4

*Descriptive Statistics for all Measured Variables reported by the Primary Caregivers*

	<i>M</i>	<i>SD</i>	Min	Max
Parent's Importance of Religion				
Wave 1	3.75 <sup>†</sup>	0.53	1.00	4.00
Wave 3	3.79	0.49	1.00	4.00
Parent's Religious Coping				
Wave 1	2.52	0.64	1.00	3.00
Wave 3	2.49	0.64	1.00	3.00
Parent's Religious Involvement				
Wave 1	8.13 <sup>**</sup>	3.06	5.00	25.00
Wave 3	8.58	3.32	2.00	25.00
Neighborhood Cohesion				
Wave 1	-.01	.55	-1.47	.98
Wave 3	-.01	.61	-1.62	.87
Parental Monitoring				
Wave 1	18.01 <sup>***</sup>	1.91	10.00	20.00
Wave 3	17.08	2.63	3.00	20.00
Consistent Discipline				
Wave 1	22.49 <sup>***</sup>	2.21	14.00	25.00
Wave 3	19.34	2.72	8.00	24.00
Problem Solving				
Wave 1	6.32	1.37	1.00	8.00
Wave 3	6.33	1.32	2.00	8.00
Inductive Reasoning				
Wave 1	18.39 <sup>†</sup>	3.34	6.00	24.00
Wave 3	18.14	3.41	7.00	24.00
Positive Reinforcement				
Wave 1	6.86 <sup>***</sup>	1.10	3.00	8.00
Wave 3	6.56	1.20	3.00	8.00

*Note.* Wave 1:  $N = 889$ . Wave 3:  $N = 767$ . <sup>\*</sup> $p < .05$ , <sup>\*\*</sup> $p < .01$ , <sup>\*\*\*</sup> $p < .001$

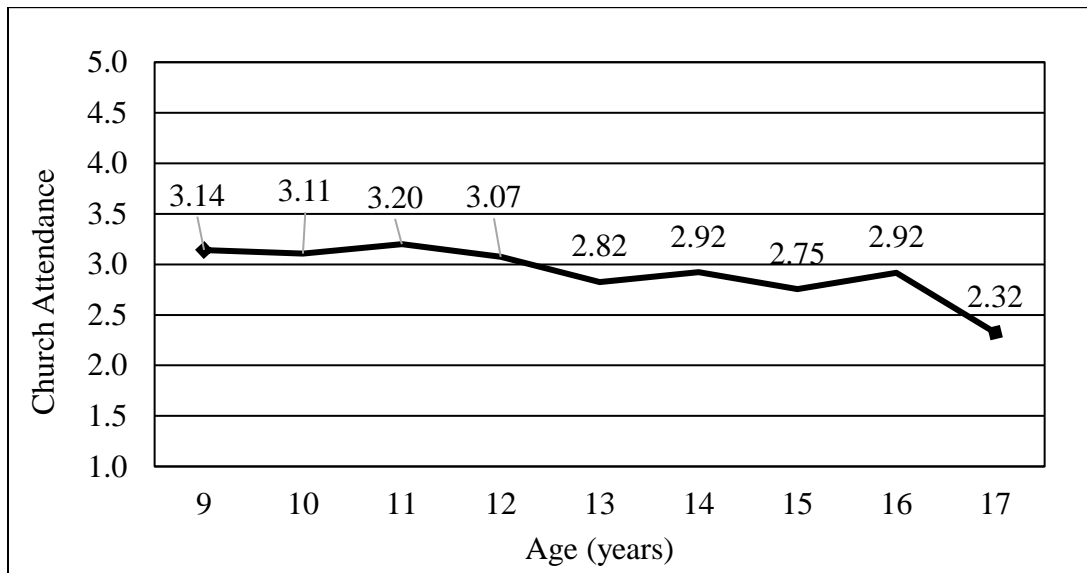


Figure 3. Mean values of church attendance during adolescence.

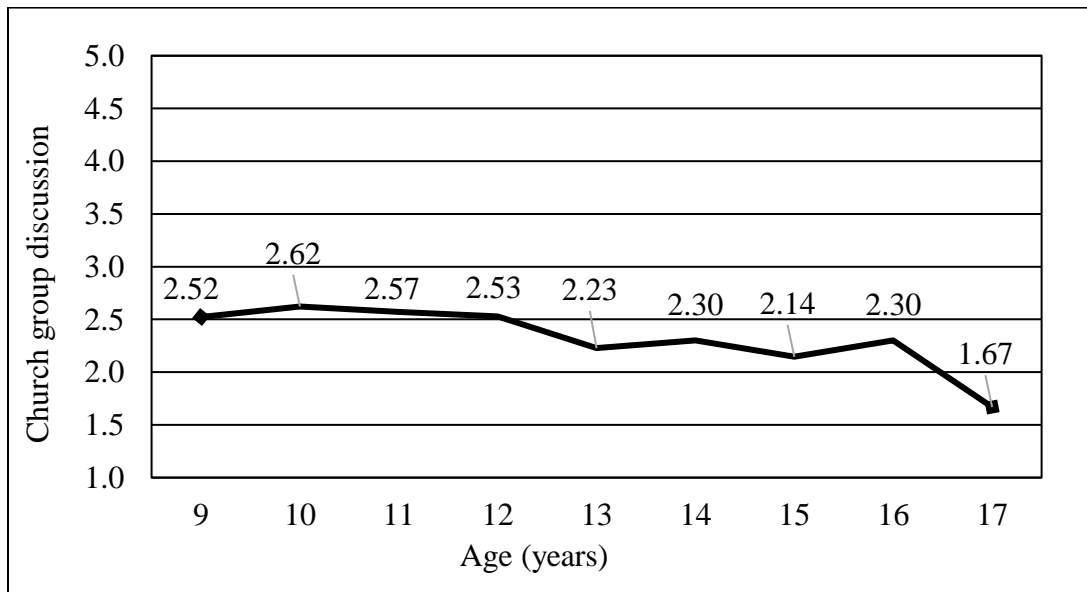


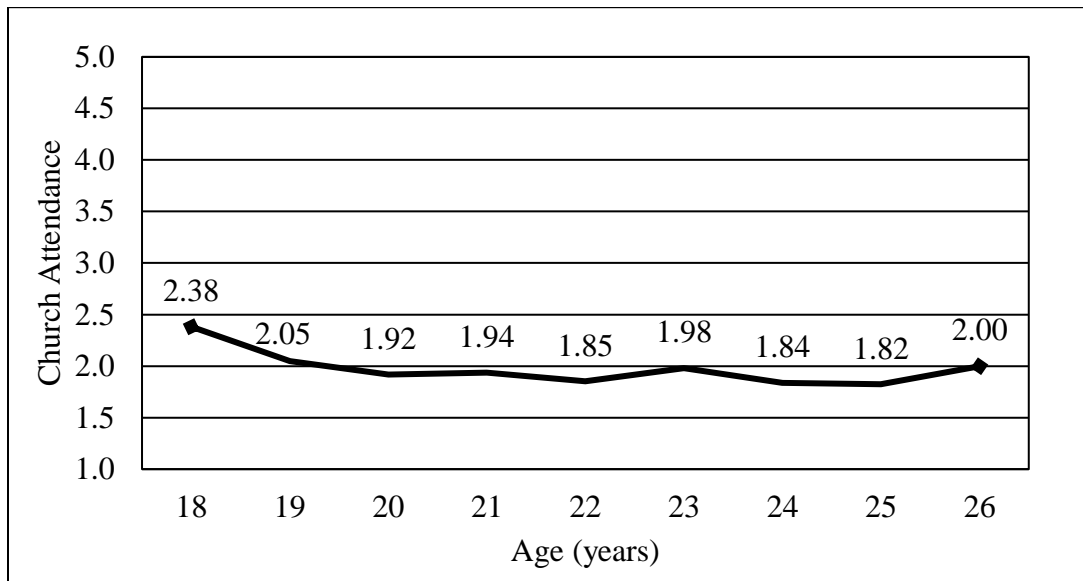
Figure 4. Mean values for participation in church group discussions during adolescence.



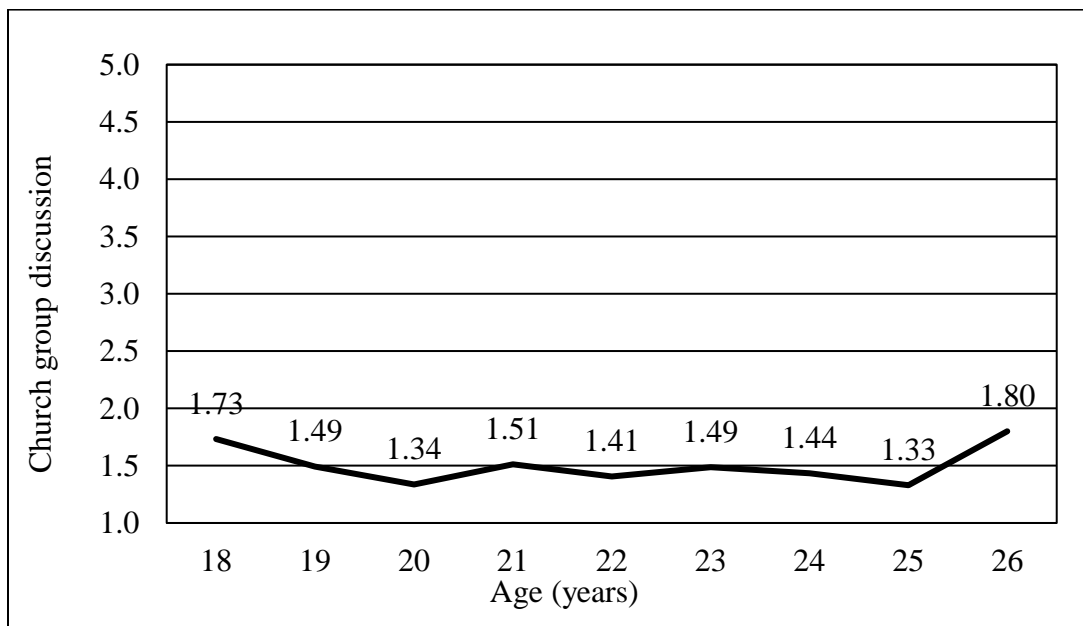
*Figure 5.* Mean values of the importance of religion during adolescence.

Similarly, Figures 6 through 8 present mean values for the religiosity measures during young adulthood. Compared to adolescence, the frequency of church attendance and participation in church group discussions during young adulthood were lower. There was a slight increase from the age of 25 to 26 for both church attendance and participation in church group discussions. Similar to what was found for adolescence, the importance of religion during young adulthood decreased over time and remained around the same level starting at age 21. In addition, the decrease in the frequency of church attendance and participation in church group discussions appeared to be greater than the decrease in the importance of religion during young adulthood. The average values for the importance of religion indicated that participants continued to perceive religion as being important in their lives as they transitioned from adolescence to young adulthood.

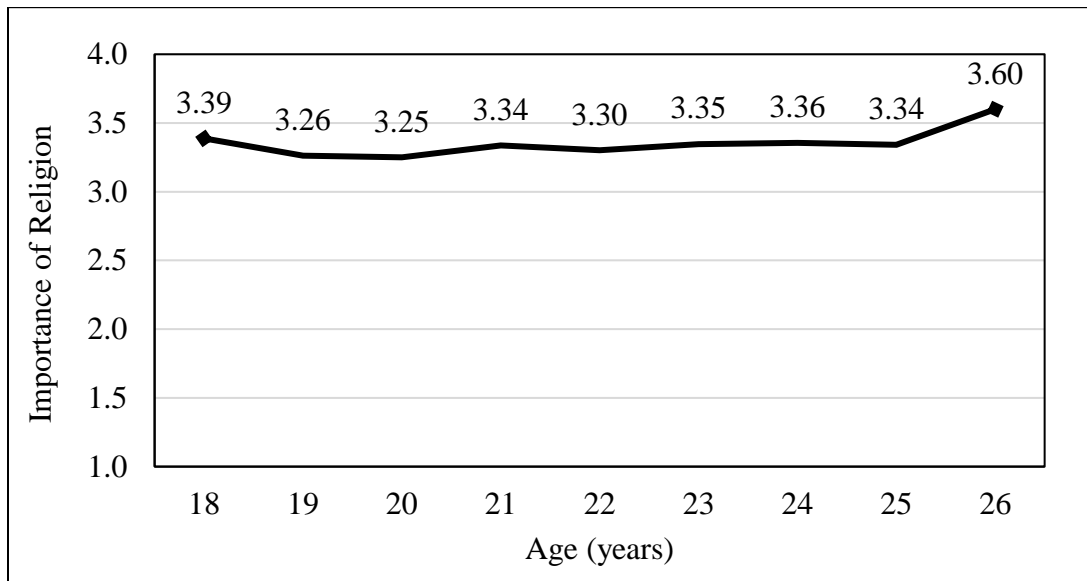




*Figure 6.* Mean values of church attendance during young adulthood.



*Figure 7.* Mean values of participation in church group discussions during young adulthood.



*Figure 8.* Mean values of the importance of religion during young adulthood.

### **Predictors of Level and Change in Religiosity**

The present study conducted separate analyses of the data during adolescence and young adulthood due to the different patterns of change in religious development between the two developmental periods. Preliminary analyses also showed the number of cases for the two developmental period was different due to some targets discontinuing participation in the study. Specifically, as noted above 175 participants had data only for the adolescent period of time (i.e., Waves 1 through 3) whereas 714 participants had data for both adolescence and young adulthood. Independent sample *t*-tests were conducted for the predictor variables from Wave 1 and the religiosity variables from Waves 1 through 3 to examine whether or not scores on these measures were different for the 714 target participants with complete data and the 175 participants who did not have data for

Waves 4 through 6. Results indicated there were no significant differences between the two groups on these measures (see Tables 5, 6, and 7).

Finally, because some of the predictor variables were not assessed until participants reached young adulthood in Wave 4, these factors could only be included as predictors in the young adulthood models. Therefore, results are presented below separately for the adolescence and young adulthood developmental periods.

Table 5

*Independent Sample t-Test Comparing African Americans Participated in Both Adolescence and Young Adulthood and Participated in Adolescence Only on All Wave 1 Measured Variables*

Target Variables	Participated in Both Waves		In Adolescence Only		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Perceived Discrimination	20.80	6.72	21.73	7.22	1.55	.12
Deviant Peer Affiliation	22.62	4.64	22.44	4.59	-.45	.65
Neighborhood Disorder	8.32	2.56	8.13	2.51	-.89	.38
Warmth	27.34	4.47	27.44	4.53	.28	.78
Low Hostility	47.63	4.90	47.90	4.81	.66	.51
Parental Monitoring	44.77	5.18	45.71	4.19	.40	.69
Consistent Discipline	16.95	2.80	17.05	2.77	1.14	.26
Problem Solving	6.36	1.67	6.46	1.33	.87	.39
Inductive Reasoning	14.06	3.54	13.53	4.09	-1.71	.09
Positive Reinforcement	6.55	1.46	6.60	1.46	.41	.69

*Note.* Participated in Both Adolescence and Young Adulthood: *N* = 714. Participated in

Adolescence Only: *N* = 175.

Table 6

*Independent Sample t-Test Comparing African American Families Participated in Both Adolescence and Young Adulthood and Participated in Adolescence Only on Religiosity Items*

Target Variables	Participated in Both Waves		In Adolescence Only		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Church Attendance						
Wave 1	3.14	1.23	3.14	1.22	-.05	.96
Wave 2	2.98	1.12	2.84	1.21	-1.26	.21
Wave 3	2.63	1.17	2.36	1.16	-2.08	.04
Church Group Discussion						
Wave 1	2.60	1.31	2.58	1.38	-.17	.86
Wave 2	2.36	1.25	2.31	1.32	-.41	.68
Wave 3	1.95	1.17	1.87	1.06	-.67	.51
Importance of Religion						
Wave 1	3.48	.82	3.51	.83	.41	.68
Wave 2	3.41	.78	3.41	.83	.09	.93
Wave 3	3.37	.72	3.16	.88	-2.54	.01

*Note.* Participated in Both: *N* = 714. Participated in Adolescence Only: *N* = 175.

**Adolescence.** The first step in evaluating the fit of the theoretical model presented in Figure 1 to the data from the adolescence sample involved an evaluation of the measurement model, where two of the predictor variables that are employed in testing the model (Nurturant-Involved Parenting and Parental Religiosity) were specified as latent variables and the remaining variables are specified as manifest or measured variables. All of the variables included in the measurement model were allowed to be correlated with one another. The fit of this model to the data was  $X^2(28, N=889) = 82.58, p < .001$ , CFI = .96, RMSEA = .505; these results indicate that the measurement model fits the data very well. Loadings of the measured variables on the two latent variables are shown in Table

8; all of the loadings were highly significant. Correlations among the measured and latent variables included in the model are presented in Table 9. As can be seen in the table, the correlations among the predictor variables are consistent with expectations. It is worth noting that correlations between neighborhood disorder, deviant peer affiliation, and perceived discrimination were higher than correlations among the other predictor variables.

Table 7

*Independent Sample t-Test Comparing African Americans Participated in Both Adolescence and Young Adulthood and Participated in Adolescence Only on All Wave 1 Measured Variables*

Primary Caregiver Variables	Participated in Both Waves		In Adolescence Only		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Parent's Importance of Religion	3.74	.54	3.74	.51	.04	.97
Parent's Religious Coping	2.51	.64	2.50	.64	-.31	.76
Parent's Religious Involvement	8.13	3.50	7.76	3.00	-1.15	.25
Neighborhood Cohesion	-.12	7.96	.49	7.92	.90	.37
Parental Monitoring	18.02	1.87	17.84	2.04	-1.14	.25
Consistent Discipline	22.47	2.02	22.58	2.10	.63	.53
Problem Solving	6.30	1.35	6.25	1.47	-.44	.66
Inductive Reasoning	18.31	3.35	18.61	3.32	1.07	.29
Positive Reinforcement	6.85	1.10	6.85	1.14	-.08	.94
Parental Education	12.47	2.11	12.36	1.87	-.58	.56

*Note.* Participated in Both: *N* = 714. Participated in Adolescence Only: *N* = 175.

Table 8

*Loadings of the Measured Variables on the Latent Variables during Adolescence*

Variable	Nurturant-involved Parenting	Parental Religiosity
Low Hostility	.51	
High Warmth	.78	
Good Management	.66	
Parent's Importance of Religion		.65
Parent's Religious Coping		.68
Parent's Religious Involvement		.47

*Note.* The standardized loadings of the measured variables on the latent variables are shown. All variables were collected in Wave 1.

Table 9

*Correlations among the Measured and Latent Variables during Adolescence (Wave 1)*

	1	2	3	4	5	6	7
1. Perceived Discrimination	-						
2. Deviant Peers affiliation	.39***	-					
3. Neighborhood Disorder	.35***	.34***	-				
4. Neighborhood Cohesion (Parent)	-.06	-.05	-.11**	-			
5. Nurturant-involved Parenting	-.19***	-.28***	-.21***	.12**	-		
6. Parental Religiosity	-.02	-.02	-.08	.12**	.21***	-	
7. Parental Education	-.04	-.09*	-.18**	.08*	.22***	.18***	-

*Note.*  $N = 889$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

The correlation among the predictors and the sample demographic characteristics are presented in Table 10. Parental education was positively associated with state of residence, indicating parental participants in Iowa reported higher levels of education compared to parents from Georgia. Similarly, perceived discrimination was positively

correlated with state of residence, indicating participants in Iowa reported higher levels of perceived discrimination. Furthermore, state correlated negatively with parent's evaluation of the importance of religion, parent's religious coping, and parent's religious involvement, indicating parents in Georgia reported higher levels of religiosity. Finally, males reported higher levels of deviant peer affiliation compared to females.

Table 10

*Correlations between Predictors and Covariates (Wave 1)*

<b>Covariates</b>	<b>State</b>	<b>Gender</b>	<b>Education</b>
Target's State (1 = IA)	-		
Target's Gender (1 = Male)	.01	-	
Parental Education	.15***	.03	-
<b>Predictors</b>	<b>State</b>	<b>Gender</b>	<b>Education</b>
Perceived Discrimination	.18***	-.05	-.04
Deviant Peers affiliation	.05	.08*	-.10*
Neighborhood Disorder	-.01	.01	-.12**
Low Hostility	-.03	-.05	.10*
High Warmth	.04	.02	.21***
Good Child management	.01	-.08*	.07
Parent's Importance of Religion	-.17***	.00	.05
Parent's religious coping	-.09**	-.03	.14***
Parent's religious involvement	-.10**	.00	.19***
Neighborhood Cohesion (Parent)	-.04	.04	.08*

*Note.*  $N = 888$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

***Baseline model for church attendance during adolescence.*** The present study hypothesized that there would be significant individual variability in the initial level of church attendance, and that there would be a decrease in church attendance over time along with significant individual variability in the change in the frequency of church attendance over time (i.e., some individuals would decrease in church attendance to a greater degree than others). To examine these hypotheses I tested a null or baseline model that included no predictor variables for church attendance. The first component of the latent growth curve, labeled the “intercept,” represents the initial level of church attendance at 10 years of age. Two statistics associated with the intercept are the mean and the variance. The intercept represents the average score on the Church Attendance measure for all participants when they were 10 years of age, whereas the variance of the intercept represents the variability of individual Church Attendance scores around the intercept. The second component of the latent growth curve, labeled the “slope,” represent the change in church attendance over time during adolescence. Two statistics associated with the slope are the mean and the variance. The intercept represents the average change on the Church Attendance measure for all participants over time during adolescence, whereas the variance of the slope represents the variability of individual Church Attendance scores around the slope.

The model fit of the baseline model for church attendance was Log likelihood = -3744.51, Akaike information criterion (AIC) = 7505.02, Bayesian information criterion (BIC) = 7543.33, and Sample-Size Adjusted BIC (Adjusted BIC) = 7517.93. The estimated intercept for the church attendance baseline model was 3.16. The variance of the intercept was statistically significant (variance = .43,  $p < .001$ ), indicating there were



significant individual differences in the initial level of church attendance (i.e., some adolescents attended church significantly more often than others). The second component of the latent growth curve model is the linear term, which captures changes in the frequency of church attendance per year for the sample. Similar to the intercept, the mean of the linear term reflects the group-level change (i.e., the mean of the regression slope for all individuals), whereas the variance of the slope reflects individual variability in change over time. The results indicated that the mean change in church attendance was negative (mean slope =  $-.11$ ,  $p < .001$ ), indicating a decrease in church attendance over time, but there was also significant individual variability in the rate of change (variance =  $.02$ ,  $p < .01$ ). The statistically significant variance for the change component indicates some individuals reported a faster rate of decline than others (see Table 11).

Table 11

*Change in Church Attendance during Adolescence*

	Unstandardized estimates	SE	<i>p-value</i>
1. Intercept mean	3.16	.04	< .001
2. Intercept variance	.44	.01	< .001
3. Linear mean	-.11	-10.81	< .001
4. Linear variance	.02	.01	< .01

*Note.*  $N = 888$ .

***Baseline model for participation in church group discussions during adolescence.*** The present study hypothesized that there would be significant individual variability in the initial level of participation in church group discussions, and that there would be a decrease in participation over time along with significant individual variability in the intercept and slope for the frequency of participating in church group

discussions. To examine these hypotheses, I tested a null or baseline model for the frequency of participation in church group discussions. The fit of the baseline model for participation in church group discussions was Log likelihood = -3903.38, Akaike information criterion (AIC) = 7822.77, Bayesian information criterion (BIC) = 7861.08, and Sample-Size Adjusted BIC (Adjusted BIC) = 7835.67. The intercept for participation in church group discussion was 2.61 and significant. The variance was .46 ( $p < .001$ ), indicating there was individual variability in the initial level of participation in church group discussions. The mean linear slope for participation in church group discussion was negative (-.13,  $p < .001$ ), indicating a significant decrease in participation over time. However, the variance of the linear slope for church group discussion was not significant (mean slope = .01,  $p = .52$ ), indicating there was little individual variability among the adolescents in the change over time (see Table 12).

Table 12

*Change in Participation in Church Group Discussion during Adolescence*

	Unstandardized estimates	SE	<i>p-value</i>
1. Intercept mean	2.61	.04	< .001
2. Intercept variance	.46	.08	< .001
3. Linear mean	-.13	.01	< .001
4. Linear variance	.01	.01	.52

*Note.*  $N = 888$ .

***Baseline model for the importance of religion.*** I also hypothesized there would be significant individual variability in the initial level of the importance of religion, and that there would be a decrease in the importance of religion over time along with significant variability in the initial level and decline in the importance of religion (i.e.,

some individuals would experience a faster rate of decline in the importance of religion than others). To examine these hypotheses I tested a null or baseline model for the importance of religion.

The fit of the baseline model for the importance of religion was Log likelihood = -2784.769, Akaike information criterion (AIC) = 5585.537, Bayesian information criterion (BIC) = 5623.84, and Sample-Size Adjusted BIC (Adjusted BIC) = 5598.434. Consistent with the hypothesis, the estimated intercept for importance of religion was 3.48 and significant. The variance of the intercept was also statistically significant (variance = .125,  $p < .01$ ), indicating meaningful individual variability in the initial importance of religion. As expected, the linear slope for the importance of religion was negative (mean slope = -.024,  $p < .001$ ), indicating a decrease in the importance of religion over time for this sample of adolescents. There was also significant individual variability in the rate of change, as indicated by the statistically significant variance in the linear slope (variance = .01,  $p < .01$ ). This indicates that some adolescents experienced a faster decrease in the importance of religion than others (see Table 13).

Table 13

*Change in the Importance of Religion during Adolescence*

	Unstandardized estimates	SE	<i>p-value</i>
1. Intercept mean	3.48	.03	< .001
2. Intercept variance	.13	.04	< .001
3. Linear mean	-.02	.01	< .001
4. Linear variance	.01	.003	< .01

*Note.*  $N = 888$

*Measurement and causal model for the frequency of church attendance during adolescence.* I next examined the fit of the measurement model, where the predictors were added to the null or baseline model along with the correlations between the predictors and the two outcome variables (i.e., initial level of church attendance and the linear change in church attendance over time). The fit of the measurement model for church attendance was Log likelihood = -18019.79, Akaike information criterion (AIC) = 36185.57, Bayesian information criterion (BIC) = 36535.16, and Sample-Size Adjusted BIC (Adjusted BIC) = 36303.33. Correlations between the intercept and slope for church attendance and the predictors from the measurement model are presented in Table 14. Church attendance at Age 10 was positively correlated with nurturant-involved parenting and parent's religiosity. Linear change in church attendance was negatively correlated with parental education and nurturant-involved parenting, indicating that adolescents with parents who had higher levels of education and were higher in nurturant-involved parenting at Wave 1 were more likely to experience a faster decline in church attendance during adolescence.

Table 14

*Correlations between Initial and Linear Change in Church Attendance and the Predictors from Wave 1 (Adolescence)*

	PD	DP	ND	Parenting	Parental Religiosity	NC	Parental Education
Church attendance Intercept	.06	.03	.001	.19***	.25***	.03	.10*
Church attendance Linear	-.01	-.01	.003	-.02	.001	-.003	-.03*

Note.  $N = 888$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . PD = Perceived Discrimination, DP =

Deviant Peers Affiliation, ND = Neighborhood Disorder, Parenting = Nurturant-involved Parenting, NC = Neighborhood Cohesion (Parent).

The next set of analysis evaluated the fit of the causal model shown in Figure 1 to the data. The hypothesized model explored whether neighborhood disorder, community cohesion, parental religiosity, affiliation with deviant peers, perceived discrimination, target's gender, state of residence, parental education, and nurturant-involved parenting at Wave 1 had a significant impact on both initial level and linear change in church attendance over time during adolescence. The fit of the causal model for church attendance during adolescence was Log likelihood = -18005.31, Akaike Information Criterion (AIC) = 36162.62, Bayesian Information Criterion (BIC) = 36526.58, and Sample-Size Adjusted BIC (Adjusted BIC) = 36285.22. Unstandardized coefficients for the paths included in the model are shown in Figure 9 and Table 15.

The coefficients for the intercept term show the effect of the independent variables, measured at Wave 1, on church attendance, also measured at Wave 1. Parental religiosity ( $b = .60, p < .001$ ) was positively associated with adolescents' church attendance at Wave 1. Gender was negatively associated with the initial level of church attendance ( $b = -.29, p < .001$ ), indicating that African American boys reported a lower frequency of church attendance at Wave 1.

With respect to the linear change in church attendance over time, the interpretation of the coefficients in a growth curve model depends on the baseline model, where no predictors are included in the model. Because the baseline model indicated that the frequency of church attendance decreased over time, both positive and negative coefficients are interpreted with reference to this decrease. That is, a *positive* relationship between a predictor variable and the linear change in church attendance means church attendance declines more slowly, whereas a *negative* coefficient indicates a faster decline in church attendance. State of residence was negatively associated with the linear change in church attendance, indicating that attendance declined faster for participants from Iowa than Georgia ( $b = -.09, p < .001$ ).

Table 15

*Unstandardized Path Coefficients of Variables Predicting Intercept and Linear Change in Church Attendance during Adolescence (Waves 1 To 3)*

Variables	<i>b</i> <sup>**</sup>		SE		<i>t</i>	
	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>
<b>Target Predictors</b>						
Perceived Discrimination	.04	-.004	.04	.01	.87	-.35
Deviant Peer Affiliation	.06	-.02	.04	.01	1.28	-1.65
Neighborhood Social Disorder	.01	.001	.02	.004	.69	0.15
<b>Parental Predictors</b>						
Parent's religiosity	.60 <sup>***</sup>	.001	.14	.02	4.31	.06
Nurturant-Involved Parenting	.08 <sup>†</sup>	-.01	.06	.01	1.76	-1.51
Neighborhood Cohesion (Parent)	.002	.00	.01	.001	.36	-.23
<b>Covariates</b>						
Target's gender (1 = male)	-.29 <sup>***</sup>	.02	.07	.02	-4.11	1.36
Parental Education	.01	-.02	.04	.01	.36	-1.88
Target's State (1 = IA)	.07	-.09 <sup>***</sup>	.07	.02	.89	-4.36

*Note.* *N* = 888. \* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001. A positive effect on the linear change indicates church attendance declines

*slower* than others, while a *negative* coefficient indicates a *faster* decline on church attendance. All predictors were from Wave

1.

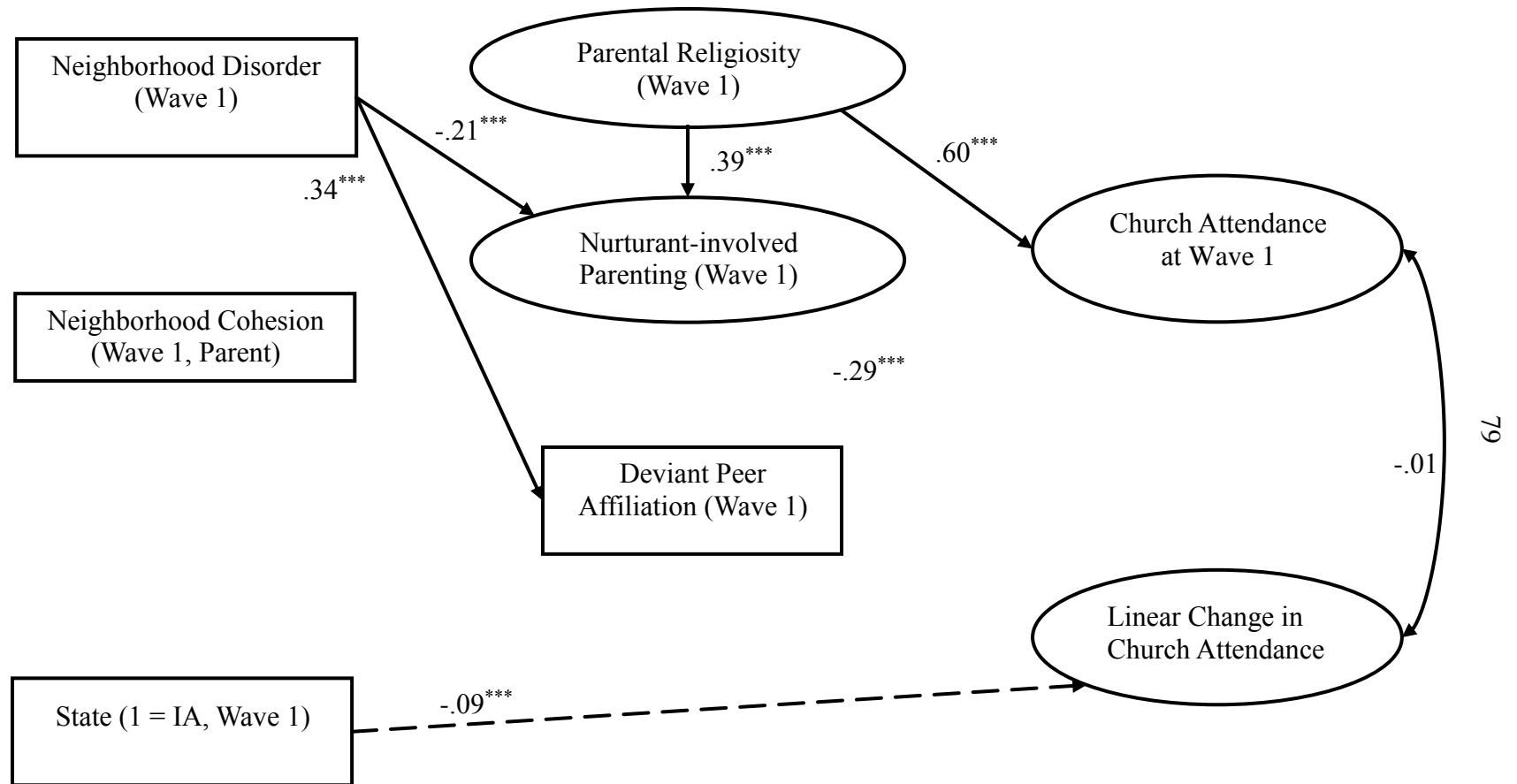


Figure 9. Church Attendance during Adolescence.  $N = 888$ .  $^*p < .05$ ,  $^{**}p < .01$ ,  $^{***}p < .001$ . Only the significant paths are presented. Solid lines represent prediction to church attendance at Wave 1, while dashed lines represent prediction to the linear change in church attendance. A *positive* effect on the linear change indicates church attendance declines *slower* than others, while a *negative* coefficient indicates a *faster* decline on church attendance.



*Measurement and causal model for participation in church group discussions during adolescence.* First, the measurement model for participation in church group discussions was examined, where the predictors were added to the null or baseline model and the predictors were correlated with the two church group discussion variables (i.e., initial frequency of participation in church group discussions and the linear change in participation in church group discussions over time). The fit of the measurement model for church group discussion was Log likelihood = -18186.70, Akaike information criterion (AIC) = 36519.40, Bayesian information criterion (BIC) = 36867.00, and Sample-Size Adjusted BIC (Adjusted BIC) = 36637.16. Correlations between the two church group discussion variables and the predictors from the measurement model are presented in Table 16. Church group discussion participation at Wave 1 was positively correlated with perceived discrimination, deviant peer affiliation, nurturant-involved parenting, and parental religiosity. These results indicated that adolescents who experienced higher levels of perceived discrimination, deviant peer affiliation, nurturant-involved parenting, and parental religiosity reported more participation in church group discussions. Change in participation in church group discussions was negatively correlated with perceived discrimination and nurturant-involved parenting, indicating that adolescents who reported higher levels of perceived discrimination and received higher levels of nurturant-involved parenting were more likely to report a faster decline in church group discussion participation.

Table 16

*Correlations between Initial and Linear Change in Participation in Church group discussions and the Predictors from Wave 1 for Adolescents*

	PD	DP	ND	Parenting	Parent Religiosity	NC	Parental Education
Church group discussion Intercept	.09*	.07	.04	.27***	.23***	.03	.06
Church group discussion Linear	-.02	-.02	.01	-.03*	-.003	.001	-.01

*Note.*  $N = 888$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . PD = Perceived Discrimination, DP = Deviant Peer Affiliation, ND = Neighborhood

Disorder, Parenting = Nurturant-involved Parenting, NC = Neighborhood Cohesion (Parent)

The next set of analyses evaluated the fit of the causal model shown in Figure 1 to the data. The fit of the causal model for church group discussion was Log likelihood = -18187.55, Akaike Information Criterion (AIC) = 36527.09, Bayesian Information Criterion (BIC) = 36891.05, and Sample-Size Adjusted BIC (Adjusted BIC) = 36649.69. Unstandardized coefficients for the paths included in the model are shown in Figure 10 and Table 17.

The coefficients for the intercept term show the effect of the independent variables, measured at Wave 1, on participation in church group discussions, also measured at Wave 1. Results indicated that parental religiosity, nurturant- involved parenting, and deviant peer affiliation were positively associated with adolescents' participation in church group discussions at Wave 1. African American boys also reported lower initial levels of participation in church group discussions at Wave 1.

With respect to the linear change in participation in church group discussions over time, the results indicated that deviant peer affiliation was a significant negative predictor; adolescents with higher levels of deviant peer affiliation at Wave 1 reported a faster rate of decline in participation in church group discussions. In addition, nurturant-involved parenting was also negatively related to the linear change in church group discussion, indicating adolescents with higher nurturant-involved parenting at Wave 1 experienced a faster decline in participation. Finally, African American adolescents who lived in Iowa reported a faster decline in participation in church group discussions.

Table 17

*Unstandardized Path Coefficients of Variables Predicting Intercept and Linear Change in Church Group Discussion during Adolescence (Waves 1 To 3)*

Variables	<i>b</i> <sup>**</sup>		SE		<i>t</i>	
	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>
<b>Target Predictors</b>						
Perceived Discrimination	.06	-.01	.05	.01	1.38	-1.51
Deviant Peer Affiliation	.11 <sup>*</sup>	-.03 <sup>*</sup>	.05	.01	2.33	-2.22
Neighborhood Social Disorder	.05	.01	.04	.01	1.20	.99
<b>Parental Predictors</b>						
Parent's religiosity	.53 <sup>***</sup>	-.003	.13	.02	3.99	-.17
Nurturant-Involved Parenting	.19 <sup>***</sup>	-.03 <sup>**</sup>	.05	.01	3.83	-2.95
Neighborhood Cohesion (Parent)	.01	.01	.07	.02	.16	.45
<b>Covariates</b>						
Target's gender	-.19 <sup>*</sup>	.03	.08	.02	-2.54	1.52
Parental Education	-.03	-.002	.04	.01	-.59	-.21
Target's State (1 = IA)	.08	-.05 <sup>*</sup>	.08	.02	.95	-2.44

*Note.* *N* = 888. <sup>\*</sup>*p* < .05, <sup>\*\*</sup>*p* < .01, <sup>\*\*\*</sup>*p* < .001. A *positive* effect on the linear change indicates church group discussion

declines more *slowly* than others, while a *negative* coefficient indicates a *faster* decline on church group discussion. All

predictors were from Wave 1.

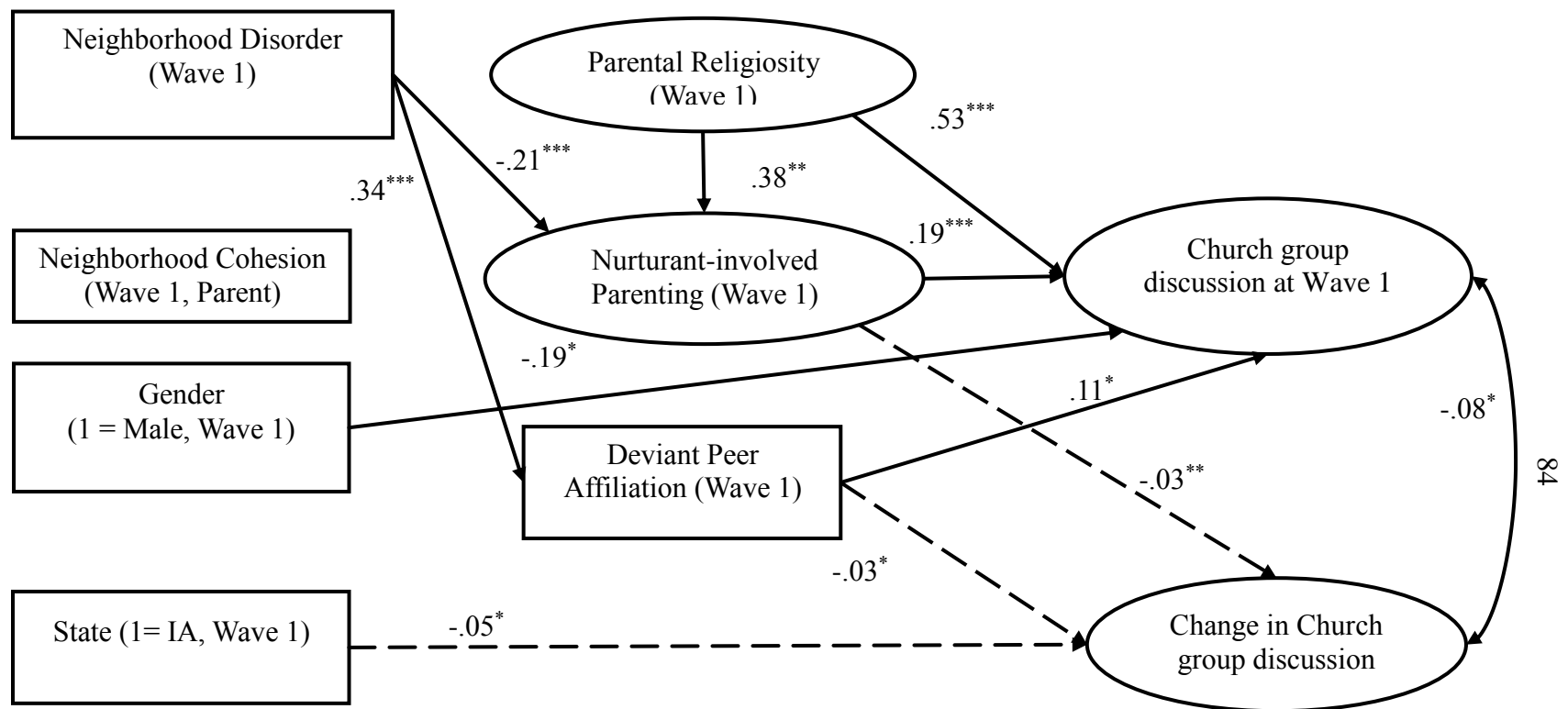


Figure 10. Church Group Discussion during Adolescence.  $N = 888$ .  $^*p < .05$ ,  $^{**}p < .01$ ,  $^{***}p < .001$ . Only the significant paths are presented. Solid lines represent prediction to church group discussion at Wave 1, while dashed lines represent prediction to the linear change in church group discussion. A *positive* effect on the linear change indicates church group discussion declines more *slowly* than others, while a *negative* coefficient indicates a *faster* decline on church group discussion.

***Measurement and causal model for the importance of religion during adolescence.*** The measurement model for the importance of religion was examined, where the predictor variables were added to the baseline model and correlations between the predictors and the two importance of religion variables (i.e., initial importance of religion and the linear change in the importance of religion over time). The fit of the measurement model for the importance of religion was Log likelihood = -17086.64, Akaike information criterion (AIC) = 34319.29, Bayesian information criterion (BIC) = 34668.88, and Sample-Size Adjusted BIC (Adjusted BIC) = 34437.05. Correlations between the importance of religion variables and the predictors from the measurement model are presented in Table 18. Importance of religion at Wave 1 was positively correlated with nurturant-involved parenting and parental religiosity, also measured at Wave 1. Deviant peer affiliation and neighborhood disorder at Wave 1 were negatively correlated with the initial level of the importance of religion.

Table 18

*Correlations between Initial and Linear Change in Importance of Religion and the Predictors during Adolescence*

	PD	DP	ND	Parenting	Parent Religiosity	NC	Parental Education
IR Intercept	-.03	-.07*	-.05	.20***	.08***	.00	.02
IR Linear	.01	.01	.01	-.02	.01	.00	-.002

*Note.*  $N = 888$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . IR = Importance of Religion, PD = Perceived

Discrimination, DP = Deviant Peer Affiliation, ND = Neighborhood Disorder, Parenting = Nurturant-involved Parenting, NC = Neighborhood Cohesion (Parent).

The next set of analyses evaluated the fit of the causal model shown in Figure 1 to the data. The fit of the causal model for importance of religion was Log likelihood = -17081.90, Akaike Information Criterion (AIC) = 34315.80, Bayesian Information Criterion (BIC) = 34679.77, and Sample-Size Adjusted BIC (Adjusted BIC) = 34438.41. Unstandardized coefficients for the paths included in the model are shown in Figure 11 and Table 19.

The coefficients for the intercept term show the effect of the predictor variables measured at Wave 1 on the importance of religion, which was also measured at Wave 1. First, both parental religiosity and nurturant-involved parenting were positively associated with adolescents' evaluation of the importance of religion at Wave 1. African American adolescents living in Iowa reported that religion was less important at Wave 1 compared to African American adolescents living in Georgia.

With respect to the change in the importance of religion over time, results from the causal model show parental religiosity was marginally and positively associated with the linear change in the importance of religion, indicating that adolescents with parents who were more religious reported a slower decline in the importance of religion over time. Both nurturant-involved parenting and gender were marginally and negatively associated with the linear change in importance of religion, indicating the males and adolescents with higher levels of nurturant-involved parenting reported a faster decline in the importance of religion over time.

Table 19

*Unstandardized Path Coefficients of Variables Predicting Intercept and Linear Change in Importance of Religion during Adolescence*

Variables	b**		SE		t	
	Intercept	Linear	Intercept	Linear	Intercept	Linear
<b>Target Predictors</b>						
Perceived Discrimination	.03	.003	.03	.01	1.08	.32
Deviant Peer Affiliation	-.03	.001	.04	.01	-.96	.08
Neighborhood Social Disorder	-.02	.004	.03	.01	-.51	.48
<b>Parental Predictors</b>						
Parent's religiosity	.13*	.03	.06	.02	2.26	1.65
Nurturant-involved Parenting	.14***	-.02	.03	.01	4.82	-1.94
Neighborhood Cohesion (Parent)	-.05	.001	.05	.01	-1.16	.10
<b>Covariates</b>						
Target's gender (1= Male)	-.02	-.03†	.05	.01	-.48	-1.85
Parental Education	-.05	-.001	.03	.01	-.68	-.17
Target's State (1 = IA)	-.13**	-.01	.05	.01	-2.65	-.38

Note.  $N = 888$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . A positive effect on the linear change indicates importance of religion declines

more slowly than others, while a negative coefficient indicates a faster decline on importance of religion. All predictors were from Wave 1.



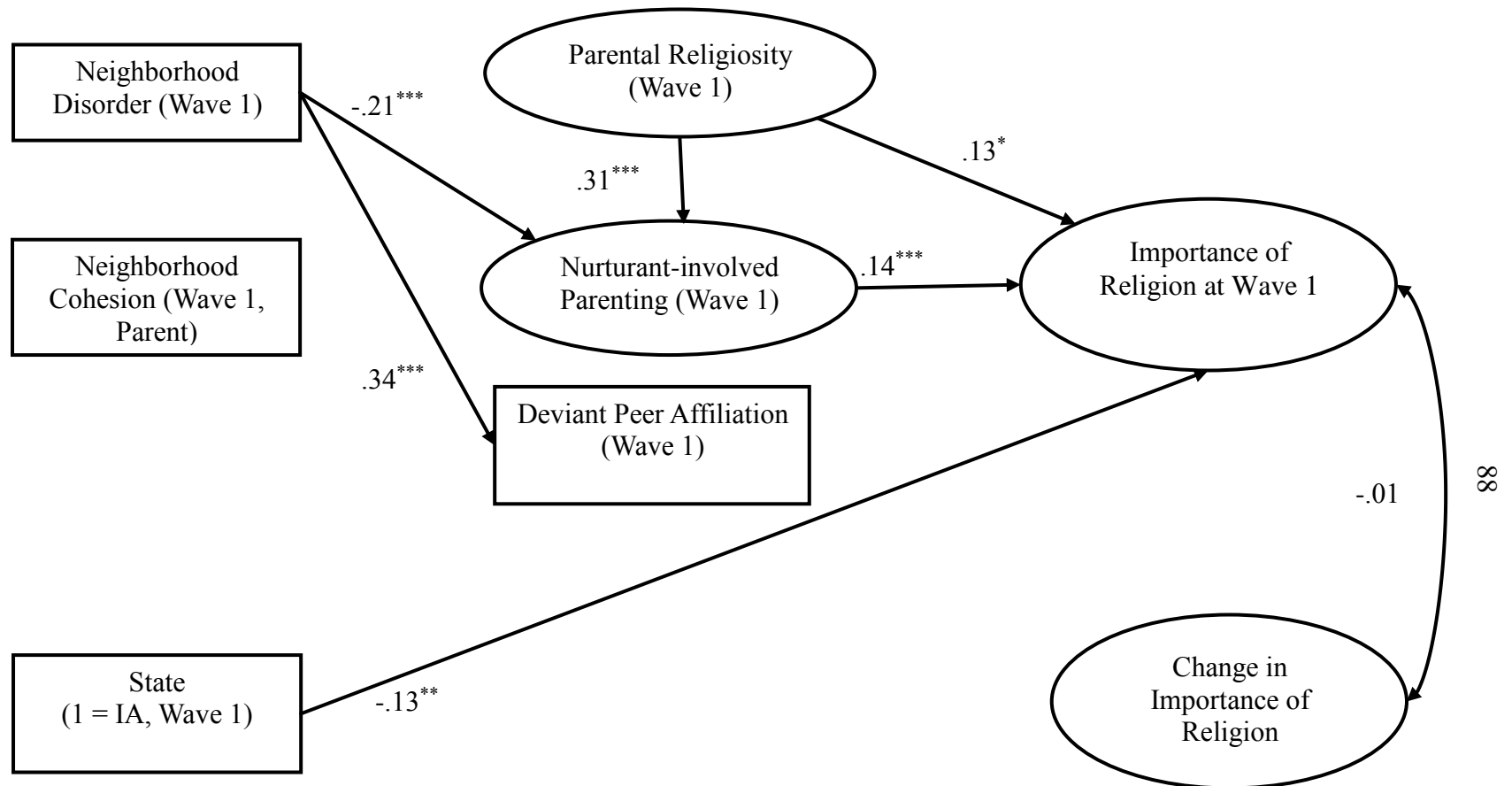


Figure 11. Importance of Religion during Adolescence.  $N = 888$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Only the significant paths are presented. Solid lines represent prediction to importance of religion at Wave 1, while dashed lines represent prediction to the linear change in importance of religion. A *positive* effect on the linear change indicates importance of religion declines more *slowly* than others, while a *negative* coefficient indicates a *faster* decline on importance of religion.

***Testing indirect effects during adolescence.*** Based on previous research regarding potential pathways through which neighborhood characteristics can be transmitted to adolescents, the present study hypothesized that the relationship between the neighborhood variables (i.e., neighborhood disorder and community cohesion) and change in religious and spiritual development over time would be mediated by both parental influences and parenting behaviors, as well as affiliation with deviant peers. Therefore, the hypothesized indirect relationships between the neighborhood characteristics (i.e., neighborhood disorder and community cohesion) and the three religiosity variables (i.e., church attendance, church group discussion, and the importance of religion trajectories) through parental and peer influences were examined. Due to the utilization of random time growth curve modeling and MLR estimation, the bootstrap sampling procedure in Mplus could not be used to test the significance of these indirect effects. Therefore, the Sobel test was used to evaluate the statistical significance of the hypothesized indirect effects (Preacher & Leonardelli, 2010).

*Church attendance.* The unstandardized coefficient and the standard error for the association between neighborhood disorder and nurturant-involved parenting ( $b = -.08$ ,  $SE = .02$ ) as well as the unstandardized coefficient and standard error for the association between nurturant-involved parenting and initial level church attendance ( $b = .08$ ,  $SE = .05$ ,  $p < .10$ ) were used to conduct the significance test. The Sobel test indicated there was no significant mediating effect of nurturant-involved parenting on the relationship between neighborhood disorder and church attendance at Wave 1 ( $z = -1.44$ .,  $p > .10$ ).

*Church group discussion.* First, the unstandardized coefficient and the standard error for the association between neighborhood disorder and nurturant-involved parenting

( $b = -.21$ ,  $SE = .04$ ) as well as the unstandardized coefficient and standard error for the association between nurturant-involved parenting and church group discussion at Wave 1 ( $b = .19$ ,  $SE = .05$ ) were used to calculate the critical ratio. The Sobel test indicated there was a significant mediation effect of nurturant-involved parenting on the relationship between neighborhood disorder and church group discussions at Wave 1 ( $z = -2.99$ ,  $p < .05$ ). Similarly, the unstandardized coefficient and the standard error for the association between neighborhood disorder and nurturant-involved parenting ( $b = -.21$ ,  $SE = .04$ ) as well as the unstandardized coefficient and standard error for the association between nurturant-involved parenting and the linear trend for participation in church group discussions ( $b = -.03$ ,  $SE = .011$ ) were used to calculate the critical ratio. Results from the Sobel test indicated a significant mediating effect of nurturant-involved parenting on the relationship between neighborhood disorder and the linear change in church group discussion ( $z = 2.55$ ,  $p < .05$ ).

Second, the unstandardized coefficient and the standard error for the association between neighborhood disorder and deviant peer affiliation ( $b = .34$ ,  $SE = .04$ ) as well as the unstandardized coefficient and standard error for the association between deviant peer affiliation and church group discussion at Wave 1 ( $b = .11$ ,  $SE = .05$ ) were used to calculate the critical ratio. The Sobel test indicated a significant mediation effect of deviant peer affiliation on the relationship between neighborhood disorder and level of participation in church group discussions at Wave 1 ( $z = 2.24$ ,  $p < .05$ ). Similarly, the unstandardized coefficient and the standard error for the association between neighborhood disorder and deviant peer affiliation ( $b = .34$ ,  $SE = .04$ ) as well as the unstandardized coefficient and standard error for the association between deviant peer

affiliation and linear trend church group discussion ( $b = -.03$ ,  $SE = .01$ ) were used to calculate the critical ratio. The Sobel test indicated a significant mediating effect of deviant peer affiliation on the relationship between neighborhood disorder and the linear change in church group discussion ( $z = -2.19$ ,  $p < .01$ ).

Third, the unstandardized coefficient and the standard error for the association between parental religiosity and nurturant-involved parenting ( $b = .39$ ,  $SE = .11$ ) as well as the unstandardized coefficient and standard error for the association between nurturant-involved parenting and initial participation in church group discussions ( $b = .19$ ,  $SE = .05$ ) were used to calculate the critical ratio. The Sobel test indicated a significant mediating effect of nurturant-involved parenting on the relationship between parental religiosity and church group discussions at Wave 1 ( $z = 2.57$ ,  $p < .05$ ). Finally, the unstandardized coefficient and the standard error for the association between parental religiosity and nurturant-involved parenting ( $b = .39$ ,  $SE = .11$ ) as well as the unstandardized coefficient and standard error for the association between nurturant-involved parenting and the linear change in church group discussions ( $b = -.03$ ,  $SE = .01$ ) were used to calculate the critical ratio. The Sobel test indicated a significant mediating effect of nurturant-involved parenting on the relationship between parental religiosity and the linear change in church group discussion ( $z = -2.27$ ,  $p < .05$ ).

*Importance of Religion.* First, the unstandardized coefficient and the standard error for the association between neighborhood disorder and nurturant-involved parenting ( $b = -.21$ ,  $SE = .04$ ) as well as the unstandardized coefficient and standard error for the association between nurturant-involved parenting and importance of religion at Wave 1 ( $b = .14$ ,  $SE = .03$ ) were used to calculate the critical ratio. Results from the Sobel test

indicated a significant mediation effect of nurturant-involved parenting on the relationship between neighborhood disorder and importance of religion at Wave 1 ( $z = -3.48, p < .001$ ).

Second, the unstandardized coefficient and the standard error for the association between parental religiosity and nurturant-involved parenting ( $b = .36, SE = .10$ ) as well as the unstandardized coefficient and standard error for the association between nurturant-involved parenting and importance of religion at Wave 1 ( $b = .14, SE = .03$ ) were used to calculate the critical ratio. The Sobel test indicated a significant mediation effect of nurturant-involved parenting on the relationship between parental religiosity and the initial importance of religion ( $z = 2.90, p < .01$ ).

**Summary of the results for religious development during adolescence.** The results from the baseline models indicated that frequency of church attendance, participation in church group discussions, and the importance of religion decreased over time during adolescence. There was significant individual variability for both the intercepts and linear slopes for all three religiosity measures; the one exception was the linear slope variability for participation in church group discussions (see Table 20). Results from the causal modeling analyses indicated that parental religiosity and nurturant-involved parenting had significant positive associations with the initial levels of these measures of religiosity. African American boys reported lower levels of church attendance and participation in church group discussions at Wave 1, but not for the importance of religion. African American adolescents who lived in Iowa reported that religion was less important at Wave 1. Inconsistent with the hypothesized model, deviant

peer affiliation was *positively* associated with participation in church group discussions at Wave 1.

For the linear change in religiosity over time, adolescents with better-educated parents reported a faster decline in the frequency of church attendance, but not for participation in church group discussions or the importance of religion. African American boys also reported a faster decline in the importance of religion, but not for the frequency of church attendance or participation in church group discussions. Finally, African American adolescents who lived in Iowa reported a faster decline in the frequency of church attendance and participation in church group discussions than adolescents living in Georgia; however, there was no significant difference in the change in the importance of religion between adolescents from the two states.

Results indicated there was no significant indirect effect of neighborhood disorder on church attendance at Wave 1 through nurturant-involved parenting. However, there was a significant indirect effect of neighborhood disorder on the level of participation in church group discussions as well as the importance of religion through nurturant involved parenting at Wave 1. In addition, nurturant-involved parenting mediated the relationship between parental religiosity and the importance of religion at Wave 1. Finally, nurturant-involved parenting also mediated the relationship between parental religiosity and participation in church group discussions at Wave 1.

For the linear change in religiosity during adolescence, nurturant-involved parenting mediated the relationship between neighborhood disorder and the linear change in both participation in church groups discussion and the importance of religion.

Nurturant-involved parenting also mediated the relationship between parental religiosity and change on these same two religiosity measures.

For deviant peer affiliation, the present study only found deviant peer affiliation significantly mediated the relationship between neighborhood disorder and church group discussion at Wave 1 (see Table 21).

Table 20

*Religious Development during Adolescence*

	Unstandardized estimates	SE	<i>p</i> - value
1. Church attendance -Intercept mean	3.16	.04	< .001
2. Church attendance- Intercept variance	.44	.01	< .001
3. Church attendance- Linear mean	-.11	-10.81	< .001
4. Church attendance- Linear variance	.02	.01	< .01
5. Church group discussion -Intercept mean	2.61	.04	< .001
6. Church group discussion -Intercept variance	.46	.08	< .001
7. Church group discussion- Linear mean	-.13	.01	< .001
8. Church group discussion -Linear variance	.01	.01	.52
9. Importance of Religion- Intercept mean	3.48	.03	< .001
10. Importance of Religion- Intercept variance	.13	.04	< .001
11. Importance of Religion -Linear mean	-.02	.01	< .001
12. Importance of Religion- Linear variance	.01	.003	< .01

*Note.*  $N = 888$ .

Table 21

*Significant Indirect Effects of Nurturant-Involved Parenting and Deviant Peer Affiliation during Adolescence*

	Test statistic (z)	p- value
Neighborhood disorder		
a. Neighborhood disorder > Nurturant-involved parenting > Wave 1 church group discussion	-2.99	< .05
b. Neighborhood disorder > Deviant peer affiliation > Wave 1 church group discussion	2.24	< .05
c. Neighborhood disorder > Nurturant-involved parenting > Wave 1 importance of religion	-3.48	< .001
d. Neighborhood disorder > Nurturant-involved parenting > Linear change in church group discussion	2.55	< .05
e. Neighborhood disorder > Deviant peer affiliation > Linear change in church group discussion	-2.19	< .05
Parental religiosity		
f. Parental religiosity > Nurturant-involved parenting > Wave 1 church group discussion	2.57	< .05
g. Parental religiosity > Nurturant-involved parenting > Linear change in church group discussion	-2.27	< .01
h. Parental religiosity > Nurturant-involved parenting > Wave 1 importance of religion	2.90	< .01

Note.  $N = 888$ .



**Young adulthood.** The first step in evaluating the fit of the theoretical model shown in Figure 2 to the data during young adulthood involved an evaluation of the fit of the measurement model to the data, where two of the predictor variables employed in testing the model (Nurturant-Involved Parenting and Parental Religiosity) were specified as latent variables and all of other predictor variables were manifest or measured variables. The two latent variables and the other predictor variables were allowed to be correlated with one another in this model. The measurement model was found to fit the data well,  $X^2 (60, N=776) = 102.20, p < .001, CFI = .999, RMSEA = .03$ . Loadings of the measured variables on the two latent variables are shown in Table 22; all of the loadings were highly significant. The correlations among the measured and latent variables included in the model are presented in Table 23. As can be seen, the correlations among the predictor variables were all consistent with expectations. There were some variables that were highly correlated with one another. For instance, perceived discrimination was highly correlated with deviant peer affiliation. Among the four subscales of the racial socialization measure, warnings about discrimination was highly correlated with cultural education and the promotion of mistrust. The coping with discrimination subscale developed for the FACHS study was highly correlated with perceived discrimination, cultural education, warnings about discrimination, and promotion of mistrust. Finally, deviant peer affiliation was highly negatively correlated with traditional moral beliefs.

The correlation among the predictor variables and the covariates (i.e., state of residence, gender, and parental education) are presented in Table 24. African American parents living in Iowa reported higher levels of education. Target young adults from Iowa reported lower neighborhood cohesion and traditional moral beliefs. All four subscales from the racial socialization measure had similar correlations with state of residence, in which the targets in Iowa reported lower levels on all four racial socialization measures. Primary caregivers in Iowa also reported lower levels of religiosity. For gender, males reported lower levels of moral beliefs. Finally, African American parents with higher education were more likely to report higher levels of religious coping.

Table 22

*Loadings of the Measured Variables on the Latent Variables (Young Adulthood)*

Variables	Nurturant-involved Parenting (Wave 3)	Parental Religiosity (Wave 3)
Low Hostility	.52	
High Warmth	.73	
Good Management	.80	
Parent's Importance of Religion		.56
Parent's Religious Coping		.46
Parent's Religious Involvement		.54
Parent's Subjective Religiosity		.68
Subscale		

*Note.*  $N = 806$ . The standardized loadings of the measured variables on the latent variables are shown.

Table 23

*Correlations among the Measured and Latent Predictors (Wave 3 and 4)*

	1	2	3	4	5	6	7	8	9	10	11	12
1. Perceived Discrimination <sup>b</sup>	-											
2. Deviant Peer Affiliation <sup>b</sup>	.32***	-										
3. Neighborhood Disorder <sup>a</sup>	.13**	.26***	-									
4. Neighborhood Cohesion (Parent) <sup>a</sup>	-.04	-.12**	-.23***	-								
5. Cultural Education <sup>b</sup>	.19***	-.03	-.002	.08*	-							
6. Warnings about Discrimination <sup>b</sup>	.46***	.11**	.04	.03	.51***	-						
7. Promotion of Mistrust <sup>b</sup>	.24***	.11**	.08*	-.01	.30***	.46***	-					
8. Coping with Discrimination (Developed by FACHS) <sup>b</sup>	.39***	.06	.04	.05	.57***	.76***	.44***	-				
9. Traditional Moral Beliefs <sup>b</sup>	-.18***	-.42***	-.13***	.11**	.13**	.02	-.03	.08*	-			
10. Nurturant-involved Parenting <sup>a</sup>	-.04	-.25***	-.20***	.21***	.24***	.10**	-.02	.20***	.24***	-		
11. Parental Religiosity <sup>a</sup>	-.02	-.08	-.05	.26***	.20**	.18***	.03	.18***	.18***	.23***	-	
12. Parental Education <sup>a</sup>	.06	.08	-.09*	.02	.05	.07	-.04	.04	-.08	-.04	.14*	-

Note.  $N = 806$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . <sup>a</sup> Wave 3 variables, <sup>b</sup> Wave 4 variables.

Table 24

*Correlations between the Measured Variables and Covariates (Wave 3 And 4)*

<b>Covariates</b>	<b>State</b>	<b>Gender</b>	<b>Education</b>
Target's State (1 = IA)	-		
Target's Gender (1 = Male)	-.02	-	
Parent's Education	.18***	.03	-
<b>Predictors</b>	<b>State</b>	<b>Gender</b>	<b>Education</b>
Perceived Discrimination (Wave 4)	.19***	-.07	.06
Deviant Peer Affiliation (Wave 4)	.11**	.05	.08*
Neighborhood Disorder (Wave 3)	-.05	.02	-.02
Neighborhood Cohesion (Parent, Wave 3)	-.18***	.08*	-.09*
Traditional Moral Beliefs (Wave 4)	-.17***	-.23***	-.08*
<b>Racial Socialization (Wave 4)</b>			
Cultural Education	-.14***	-.05	.04
Discrimination Warnings	-.12**	-.02	.07
Promotion of Mistrust	-.12**	.01	-.04
Coping with Discrimination	-.10**	-.08*	.04
<b>Nurturant-involved Parenting (Wave 3)</b>			
Low Hostility	-.13***	.03	-.05
High Warmth	-.09*	.06	-.04
Good Child management	.08*	-.04	-.02
<b>Parental Religiosity (Wave 3)</b>			
Parent's Importance of Religion	-.22***	.07	.04
Parent's religious coping	-.16***	-.02	.15***
Parent's religious involvement	-.20***	-.004	.10*
Parent's Subjective Religiosity Subscale	-.20***	.06	.05

*Note.*  $N = 806$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . State was coded 0 = Georgia and 1 =

Iowa. Gender was coded 0 = Female and 1 = Male.

***Baseline model for the frequency of church attendance during young adults.*** I

hypothesized that there would be significant individual variability in the level of church attendance at age 18, and that there would be a decrease in the frequency of church attendance over time along with significant individual variability in the slope (i.e., some individuals would decrease in church attendance faster than others). To examine these hypotheses when the participants transitioned into young adulthood at age 18, the present study tested a null or baseline model (i.e., with no predictor variables) for the frequency of church attendance. The first component of the latent growth curve model, labeled the “intercept,” represents the level of church attendance when participants were 18 years of age, whereas the variance of the intercept represents the variability of individual scores on the dependent variable around this average value. The second component of the latent growth curve, labeled the “slope,” represents the change in church attendance over time during young adulthood. Two statistics associated with the slope are the mean and the variance. The mean or intercept represents the average change on the Church Attendance measure for all participants over time during young adulthood, whereas the variance of the slope represents the variability of the linear change in Church Attendance scores around the slope.

The fit of the baseline model for church attendance was Log likelihood = -2844.42, Akaike information criterion (AIC) = 5708.85, Bayesian information criterion (BIC) = 5755.61, and Sample-Size Adjusted BIC (Adjusted BIC) = 5723.85. Consistent with the hypotheses, the estimated mean intercept for church attendance was 2.11 and was significantly different from zero. The variance of the intercept was also statistically significant (variance = .69,  $p < .001$ ), indicating individual variability in the initial level

of church attendance. The second component of the latent growth curve is the linear term, which reflects change in the frequency of church attendance over time. The model estimates indicated that the mean change in church attendance was negative (mean slope =  $-.05$ ,  $p < .001$ ), indicating a decrease in church attendance over time for the sample as a whole. However, the variance of the linear slope was non-significant (variance =  $.01$ ,  $p = .48$ ). The non-significant variance for the change component indicates there was no significant individual variability in the decline in church attendance during young adulthood (see Table 25).

Table 25

*Change in Church Attendance during Young Adulthood*

	Unstandardized estimates	SE	<i>p-value</i>
1. Intercept mean	2.11	.04	< .001
2. Intercept variance	.69	.13	< .001
3. Linear mean	-.05	.01	< .001
4. Linear variance	.01	.01	.48

*Note.*  $N = 793$ .

***Baseline model for participation in church group discussions during young adulthood.*** I hypothesized that there would be significant individual variability in the initial level of participation in church group discussions, and that there would be a decrease in participation in such discussions over time along with significant individual variability in participation in church group discussions. To examine this hypothesis, the present study tested a null or baseline model for the church group discussion measure during young adulthood.

The fit of the baseline model for church attendance was Log likelihood = -2597.09, Akaike information criterion (AIC) = 5214.19, Bayesian information criterion (BIC) = 5260.94, and Sample-Size Adjusted BIC (Adjusted BIC) = 5229.19. Consistent with the hypothesis, the estimated intercept mean for participation in church group discussion was 1.52 and significantly greater than zero. The variance of the intercept was also statistically significant (variance = .72,  $p < .001$ ), indicating significant individual variability in the initial level of participation in church group discussions. The linear mean slope for participation in church group discussions was significantly negative (mean slope = -.03,  $p < .01$ ), indicating a decrease in participation during young adulthood. The linear variance for church group discussion was also significant (variance = .02,  $p < .05$ ), indicating there was significant individual variability in the linear change over time during young adulthood (see Table 26).

Table 26

*Change in Church Group Discussion during Young Adulthood*

	Unstandardized estimates	SE	<i>p-value</i>
1. Intercept mean	1.52	.04	< .001
2. Intercept variance	.72	.12	< .001
3. Linear mean	-.03	.01	< .001
4. Linear variance	.02	.01	< .05

*Note.*  $N = 793$ .

***Baseline model for the importance of religion during young adulthood.*** Finally, I also hypothesized that there would be significant individual variability in the initial level of the importance of religion, and that there would be a decrease in the importance of religion over time along with significant variability in the linear slope (i.e., some

individuals would experience a faster decline in the importance of religion than others). To examine these hypotheses during young adulthood I tested a baseline model for the importance of religion.

The fit of the baseline model for importance of religion was Log likelihood = -2275.66, Akaike information criterion (AIC) = 4571.32, Bayesian information criterion (BIC) = 4618.07, and Sample-Size Adjusted BIC (Adjusted BIC) = 4586.31. Consistent with the hypothesis, the estimated intercept for the importance of religion was 3.29 and significantly greater than zero. The variance of the intercept was also statistically significant (variance = .24,  $p < .05$ ), indicating individual variability in the initial level of the importance of religion. The change in the importance of religion was positive but not significantly different from zero (mean slope = .01,  $p = .12$ ), indicating there was not a significant change in the importance of religion over time for the sample as a whole. Similarly, the individual variability in the rate of the linear change was not significant (variance = .003,  $p = .69$ ; see Table 27).

Table 27

*Change in Importance of Religion during Young Adulthood*

	Unstandardized estimates	SE	<i>p-value</i>
1. Intercept mean	3.29	.03	< .001
2. Intercept variance	.24	.11	< .05
3. Linear mean	.01	.01	.12
4. Linear variance	.003	.01	.69

*Note.*  $N = 792$ .



***Measurement and causal model for church attendance during young***

***adulthood.*** Before examining the hypothesized causal model, I first examined the fit of the measurement model where the predictor variables were added to the baseline model and the predictor variables were correlated with the two outcomes (i.e., initial level of church attendance and the linear change in church attendance over time). The fit of the measurement model for church attendance during young adulthood was Log likelihood = -22716.67, Akaike information criterion (AIC) = 45717.33, Bayesian information criterion (BIC) = 46378.22, and Sample-Size Adjusted BIC (Adjusted BIC) = 45927.31. Correlations between church attendance and the predictor variables from the measurement model are presented in Table 28. Initial level of church attendance during young adulthood was negatively correlated with deviant peer affiliation at Wave 4. By contrast, initial level of church attendance during young adulthood was positively correlated with neighborhood cohesion at Wave 3, traditional moral beliefs at Wave 4, nurturant-involved parenting at Wave 3, and parental religiosity at Wave 3. Finally, racial socialization at Wave 4 was positively correlated with initial frequency of church attendance. None of the predictor variables were significantly correlated with change in church attendance over time.

Table 28

*Correlations between Initial and Linear Change in Church Attendance and the Predictors (Young Adulthood)*

	PD	DP	ND	NC	TMB	CE	WD	PM	CD	Parenting	PR	PED U
CA Intercept	-.05	-.12**	-.04	.11***	.26***	.24***	.16***	.17**	.21***	.66**	.55***	-.02
CA Linear	.01	-.01	.002	-.02	-.01	-.02	-.02	-.02	-.02	-.03	.01	.01

Note.  $N = 769$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . CA = Church Attendance, PD = Perceived Discrimination, DP = Deviant Peer

Affiliation (Wave 4), ND = Neighborhood Disorder (Wave 3), NC = Neighborhood Cohesion (Parent, Wave 3), TMB =

Traditional Moral Beliefs (Wave 4), CE = Cultural Education (Wave 4), WD = Warnings about Discrimination (Wave 4), PM

= Promotion of Mistrust (Wave 4), CD = Coping with Discrimination (Wave 4), Parenting = Nurturant-involved Parenting

(Wave 3), PR = Parental Religiosity (Wave 3), PEDU = Parental Education (Wave 3).

The next set of analyses evaluated the fit of the causal model shown in Figure 2 to the data. The hypothesized model explored whether neighborhood disorder, neighborhood cohesion, parental religiosity, affiliation with deviant peers, traditional moral beliefs, racial socialization, perceived discrimination, target's gender, state of residence, parental education, and nurturant-involved parenting at Wave 3 or 4 were predictive of initial level and change in church attendance for African

American young adults. The fit of the causal model for church attendance was Log likelihood = -22692.40, Akaike Information Criterion (AIC) = 45674.80, Bayesian Information Criterion (BIC) = 46348.34, and Sample-Size Adjusted BIC (Adjusted BIC) = 45887.90. Unstandardized coefficients for the paths included in the model are shown in Figure 12 and Table 29. The coefficients for the intercept term show the effect of the predictor variables measured at Wave 3 or Wave 4 on initial level of church attendance when participants were 18 years of age. Parental religiosity at Wave 3 and traditional moral beliefs Wave 4 were positively associated with church attendance at Wave 4. For the subscales from the racial socialization measure, cultural education at Wave 4 and promotion of mistrust Wave 4 were positively associated with church attendance at Wave 4. Finally, African American boys and young adults living in Iowa reported lower levels of church attendance at Wave 4.

Results indicated that deviant peer affiliation at Wave 4 and traditional moral beliefs at Wave 4 were significant in predicting the linear change in the frequency of church attendance over time. Young adults with higher levels of deviant peer affiliation at Wave 4 and traditional moral beliefs at Wave 4 experienced a faster decline in church attendance during young adulthood. Similarly, gender was significant in predicting the linear change in church attendance, indicating that young African American men experienced a faster decline in the frequency of church attendance during young adulthood. Finally, parental religiosity at Wave 3 and perceived discrimination at Wave 4 were positively associated with the linear change in church attendance over time, indicating that church attendance declined more slowly for African American young adults who experienced higher levels of perceived discrimination and had parents who were more religious.

Table 29

*Unstandardized Path Coefficients of Variables Predicting Intercept and Change in Church Attendance during Young Adulthood*

Variables	<i>b</i> <sup>**</sup>		SE		<i>t</i>	
	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>
<b>Target Predictors</b>						
Perceived Discrimination	-.04	.02	.05	.01	-.88	1.93
Deviant Peer Affiliation	-.01	-.03*	.05	.01	-.29	-2.32
Neighborhood Social Disorder (Wave 3)	-.01	.001	.04	.01	-.17	.07
Cultural Education	.12*	-.01	.04	.01	2.54	-.60
Warnings about Discrimination	-.04	-.01	.06	.02	-.68	-.45
Promotion of Mistrust	.12**	-.01	.05	.01	2.62	-1.05
Coping with Discrimination	.08	-.01	.06	.02	1.29	-.74
Traditional Moral Beliefs	.15**	-.02*	.05	.01	3.40	-1.99
<b>Parental Predictors</b>						
Parent's religiosity (Wave 3)	.11***	.01*	.03	.01	4.14	2.02
Nurturant-Involved Parenting (Wave 3)	.004	-.001	.01	.002	.36	-.28
Neighborhood Cohesion (Wave 3, Parent)	.01	-.02	.04	.01	.15	-1.50
<b>Covariates</b>						
Target's gender (1 = male)	-.13	-.05**	.08	.02	-1.74	-2.68
Parental Education	.00	.01	.04	.01	-.01	.58
Target's State (1 = IA)	-.29***	.02	.08	.02	-3.61	1.26

*Note.* *N* = 769. \**p* < .05, \*\**p* < .01, \*\*\**p* < .001. A positive effect on the linear change indicates church attendance declines

*slower* than others, while a *negative* coefficient indicates a *faster* decline on church attendance.

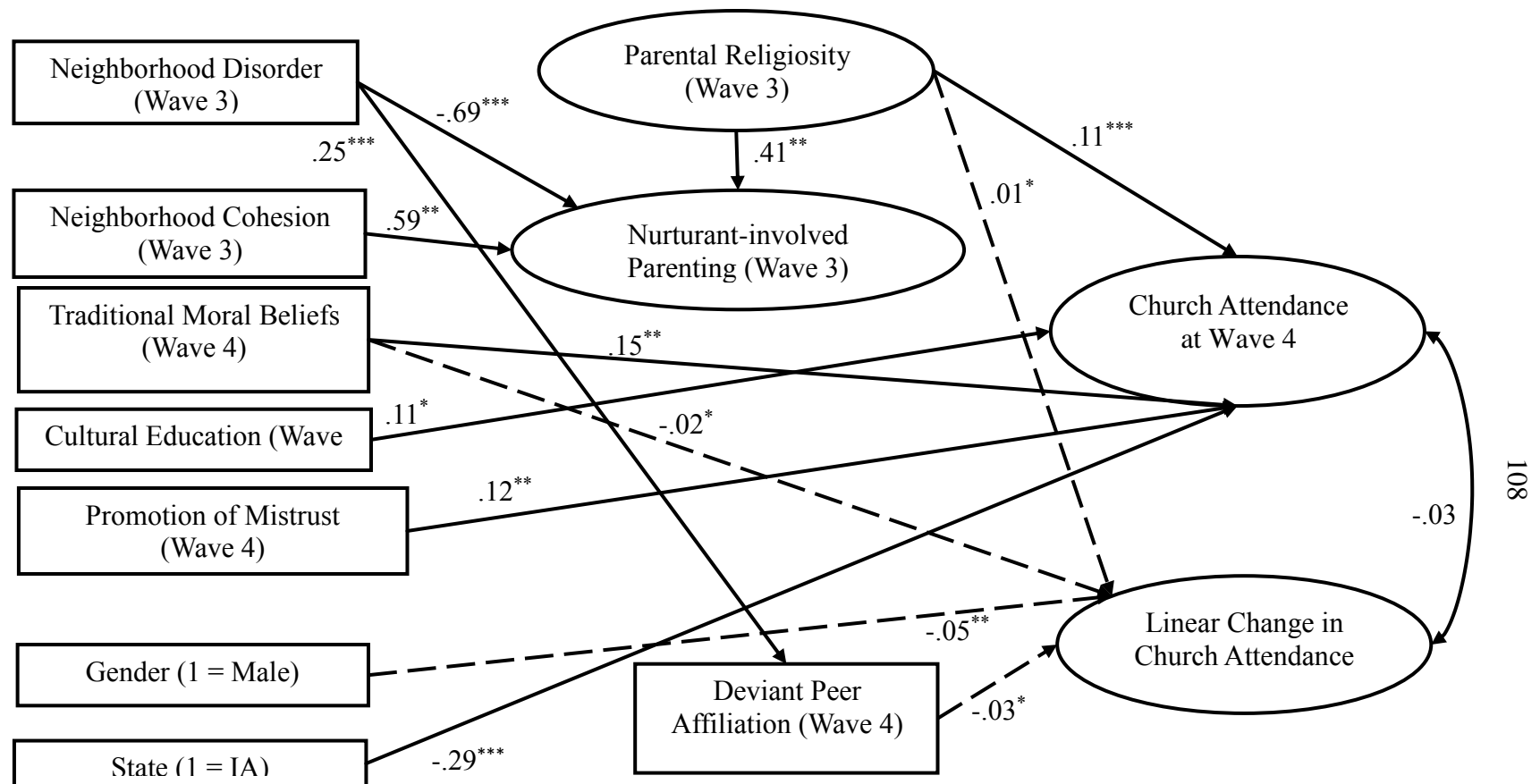


Figure 12. Church Attendance during Young Adulthood.  $N=769$ .  $^*p < .05$ ,  $^{**}p < .01$ ,  $^{***}p < .001$ . Only significant paths are presented. Solid lines represent prediction to church attendance at Wave 4, while dashed lines represent prediction to change in church attendance. A *positive* effect on the linear change indicates church attendance declines *slower* than others, while a *negative* coefficient indicates a *faster* decline on church attendance.

***Measurement and causal model for participation in church group discussions during young adulthood.*** The measurement model for participation in church group discussions was tested where the predictors were added to the baseline model and were correlated with the two outcomes (i.e., initial level church group discussion and the linear change in church group discussion over time). The fit of the measurement model for church group discussion during young adulthood was Log likelihood = -22525.02, Akaike information criterion (AIC) = 45334.03, Bayesian information criterion (BIC) = 45994.92, and Sample-Size Adjusted BIC (Adjusted BIC) = 45544.01. Correlations between the church group discussion measures and the predictors from the measurement model are presented in Table 30. For church group discussion at Wave 4, all four subscales from the racial socialization measure were positively correlated with initial participation in such discussions. Both parental religiosity and nurturant-involved parenting, traditional moral beliefs, and neighborhood cohesion were also positively correlated with initial level of participation in church group discussions. As expected deviant peer affiliation was negatively correlated with initial participation in church group discussions. Finally, neighborhood cohesion, cultural education, and nurturant-involved parenting were negatively correlated with the linear change in church group discussion participation, while neighborhood disorder was positively associated with the linear change in church group discussion participation. These results indicated that participants who reported higher levels of neighborhood cohesion and cultural education experienced a faster decline in participation in church group discussions, while those with higher levels of neighborhood disorder experienced slower declines in church group discussion participation.

Table 30

*Correlations between Initial and Linear Change in Church group discussion and the Predictors (Young Adulthood)*

	PD	DP	ND	NC	TMB	CE	WD	PM	CD	Parenting	PR	PEDU
GD Intercept	-.03	-.09*	-.05	.10**	.16**	.23***	.11**	.10*	.15***	.64***	.35***	.002
GD Linear	.01	.001	.02*	-.03**	-.01	-.02*	-.002	-.01	-.01	-.07	-.02	-.003

Note.  $N = 769$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . GD = Church group discussion, PD = Perceived Discrimination (Wave 4), DP = Deviant Peer Affiliation (Wave 4), ND = Neighborhood Disorder (Wave 3), NC = Neighborhood Cohesion (Parent, Wave 3), TMB = Traditional Moral Beliefs (Wave 4), CE = Cultural Education (Wave 4), WD = Warnings about Discrimination (Wave 4), PM = Promotion of Mistrust (Wave 4), CD = Coping with Discrimination (Wave 4), Parenting = Nurturant-involved Parenting (Wave 3), PR = Parental Religiosity (Wave 3), PEDU = Parental Education (Wave 3).

The next set of analysis evaluated the fit of the causal model shown in Figure 2 to the data. The fit of the causal model for church attendance was Log likelihood = -22514.67, Akaike Information Criterion (AIC) = 45319.33 Bayesian Information Criterion (BIC) = 45992.87, and Sample-Size Adjusted BIC (Adjusted BIC) = 45532.43. Unstandardized coefficients for the paths included in the model are shown in Figure 13 and Table 31.

The coefficients for the intercept term show the effect of the independent variables, measured at Wave 3 or Wave 4, on initial level of participation in church group discussions, measured at Wave 4. Parental religiosity at Wave 3 and traditional moral beliefs at Wave 4 were positively associated with young adults' participation in church group discussion at Wave 4. For racial socialization, cultural education at Wave 4 was positively associated with participation in church group discussions at Wave 4. Young adults in Iowa reported lower levels of church group discussion participation at Wave 4. With respect to the linear change in church group discussion participation over time, results indicated that neighborhood cohesion at Wave 3 was negatively associated with the linear change in church group discussion.



Table 31

*Unstandardized Path Coefficients of Variables Predicting Intercept and Linear Change in Church Group Discussion during Young Adulthood (Waves 4 To 6)*

Variables	<i>b</i>		SE		<i>t</i>	
	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>
<b>Target Predictors</b>						
Perceived Discrimination	-.03	.004	.04	.01	-.76	.42
Deviant Peer Affiliation	-.01	-.02	.04	.01	-.35	-1.49
Neighborhood Social Disorder (Wave 3)	-.02	.01	.03	.01	-.48	1.43
Cultural Education	.15***	-.02 <sup>†</sup>	.04	.01	3.57	-1.66
Warnings about Discrimination	-.05	.01	.06	.01	-.79	.67
Promotion of Mistrust	.06	-.004	.04	.01	1.54	-.40
Coping with Discrimination	.04	.003	.06	.02	.75	.17
Traditional Moral Beliefs	.08 <sup>†</sup>	-.01	.05	.01	1.69	-1.05
<b>Parental Predictors</b>						
Parent's religiosity (Wave 3)	.07**	.003	.02	.01	3.12	.61
Nurturant-Involved Parenting (Wave 3)	.01	-.001	.01	.002	1.04	-.59
Neighborhood Cohesion (Wave 3)	.02	-.02*	.03	.01	.68	2.34
<b>Covariates</b>						
Target's gender (1 = male)	-.06	-.01	.07	.02	-.85	-.80
Parental Education	.01	-.004	.03	.01	.29	-.46
Target's State (1 = IA)	-.18*	.03	.07	.02	2.36	1.38

*Note.*  $N = 769$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . A *positive* effect on the linear change indicates church group discussion declines *slower* than others, while a *negative* coefficient indicates a *faster* decline on church group discussion.

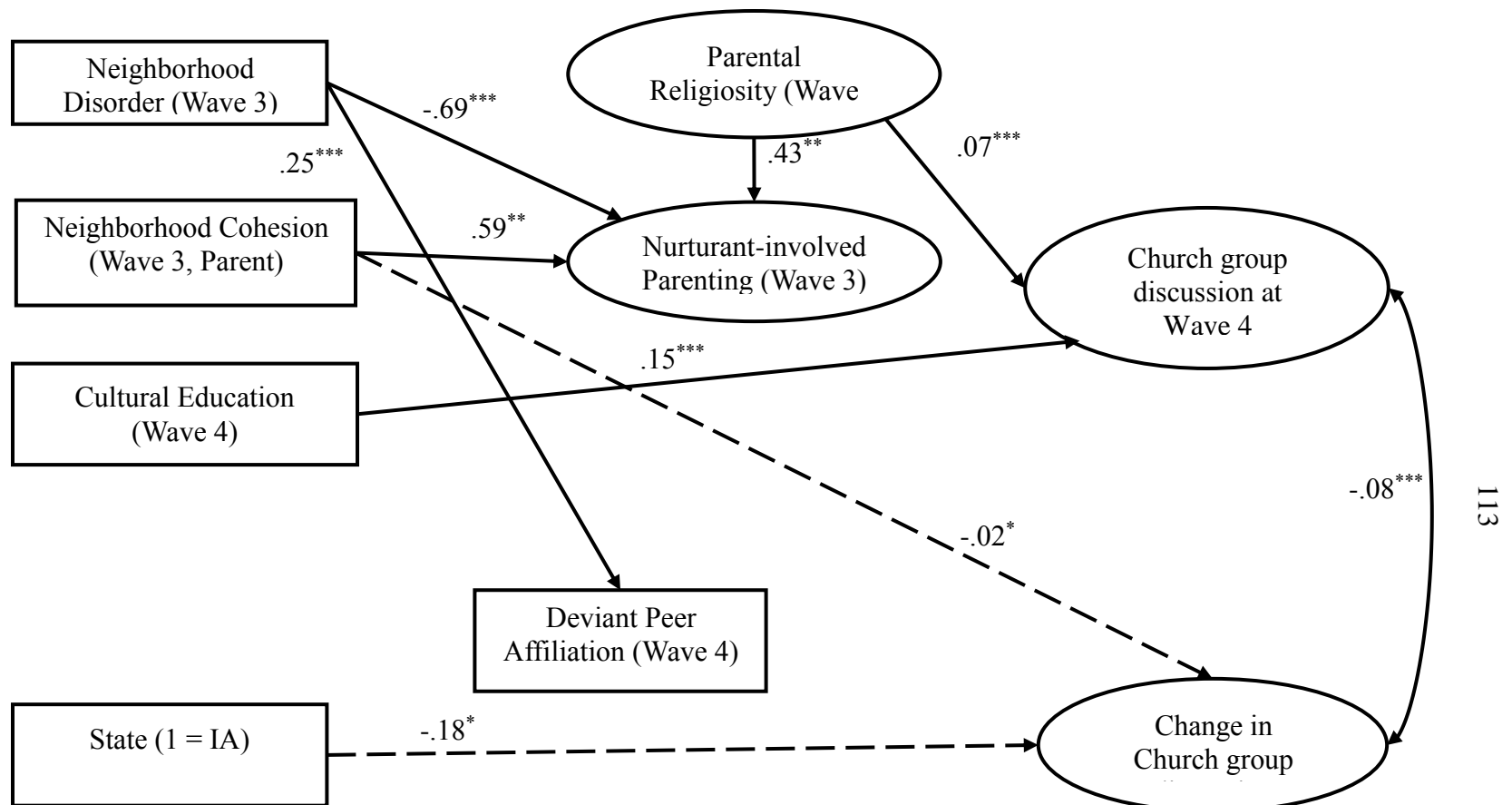


Figure 13. Church group discussion during Young Adulthood.  $N=769$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . Only significant paths are presented. Solid lines represent prediction to church group discussion at Wave 4, while dashed lines represent prediction to change in church group discussion. A *positive* effect on the linear change indicates church group discussion declines *slower* than others, while a *negative* coefficient indicates a *faster* decline on church group discussion.

***Measurement and causal model for the importance of religion during young adulthood.*** The measurement model for the importance of religion was examined, where the predictors were added to the baseline model and correlated with the two outcomes (i.e., initial importance of religion and the linear change in the importance of religion over time). The fit of the measurement model for the importance of religion during young adulthood was Log likelihood = 22166.09, Akaike information criterion (AIC) = 44616.19, Bayesian information criterion (BIC) = 45277.08, and Sample-Size Adjusted BIC (Adjusted BIC) = 44826.16. Correlations between the importance of religion intercept and slope and the predictors from the measurement model are presented in Table 32. Neighborhood cohesion, traditional moral beliefs, all four subscales of from the racial socialization measure, nurturant-involved parenting, and parental religiosity were positively correlated with the importance of religion at Wave 4. Only deviant peer affiliation was negatively correlated with the importance of religion. Finally, only the coping with discrimination measure was positively correlated with the linear change in the importance of religion over time. Given that the rate of change in the importance of religion over time was positive, this result indicates that there was a faster increase in the importance of religion for young adults who reported higher levels of coping with discrimination at Wave 4.

Table 32

*Correlations between Initial and Linear Change in Importance of Religion and the Predictors (Young Adulthood)*

	PD	DP	ND	NC	TMB	CE	WD	PM	CD	Parenting	PR	PEDU
IR	.01	-.13***	-.002	.08***	.18***	.18***	.14***	.10***	.19***	.63***	.43** *	-.03
Intercept												
IR	-.01	-.01	.00	.00	-.01	-.01	-.01	-.01	-.01*	-.02	-.01	.001
Linear												

Note.  $N = 769$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . IR = Importance of Religion, PD = Perceived Discrimination (Wave 4), DP = Deviant Peer Affiliation (Wave 4), ND = Neighborhood Disorder (Wave 3), NC = Neighborhood Cohesion (Parent, Wave 3), TMB = Traditional Moral Beliefs (Wave 4), CE = Cultural Education (Wave 4), WD = Warnings about Discrimination (Wave 4), PM = Promotion of Mistrust (Wave 4), CD = Coping with Discrimination (Wave 4), Parenting = Nurturant-involved Parenting (Wave 3), PR = Parental Religiosity (Wave 3), PEDU = Parental Education (Wave 3).

The next set of analysis evaluated the fit of the causal model shown in Figure 2 to the data. The fit of the causal model for the importance of religion was Log likelihood = -22130.69, Akaike Information Criterion (AIC) = 44551.38, Bayesian Information Criterion (BIC) = 45224.92, and Sample-Size Adjusted BIC (Adjusted BIC) = 44764.48. Unstandardized coefficients for the path coefficients are shown in Figure 14 and Table 33.

The coefficients for the intercept term show the effects of the independent variables, measured at Wave 3 or Wave 4, on the importance of religion at Wave 4. Deviant peer affiliation, residing in Iowa, and being male were negatively associated with the importance of religion at Wave 4. In addition, higher levels of traditional moral beliefs and greater coping with discrimination increased the importance of religion at Wave 4. With respect to the linear change in the importance of religion over time during young adulthood, results from the causal model indicated that young adults living in Iowa reported a slower increase in the importance of religion over time in contrast to young adults from Georgia.

*Testing indirect effects during young adulthood.* The present study hypothesized that the relationship between neighborhood characteristics (i.e., neighborhood disorder and community cohesion) and change in religious and spiritual development over time would be mediated by both parenting behaviors as well as affiliation with deviant peers. Due to the utilization of random time growth curve modeling and MLR estimation, Mplus could not be used to examine the indirect effects. Therefore, the Sobel test was used to calculate the statistical significance of the hypothesized indirect effects.

Table 33

*Unstandardized Path Coefficients of Variables Predicting Intercept and Linear Change in Importance of Religion during Young Adulthood (Waves 4 To 6)*

Variables	<i>b</i> <sup>**</sup>		SE		<i>t</i>	
	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>	<i>Intercept</i>	<i>Linear</i>
<b>Target Predictors</b>						
Perceived Discrimination	.04	.004	.03	.01	1.06	.46
Deviant Peer Affiliation	-.08*	-.01	.03	.01	-2.47	-.77
Neighborhood Disorder (Wave 3)	.04	.002	.03	.01	1.37	.20
Cultural Education	.042	-.01	.04	.01	1.22	-.61
Warnings about Discrimination	-.03	-.003	.05	.01	-.55	-.22
Promotion of Mistrust	.04	-.01	.03	.01	1.55	-.61
Coping with Discrimination	.09*	-.01	.04	.01	2.18	-.85
Traditional Moral Beliefs	.07*	-.01	.03	.01	2.08	-.58
<b>Parental Predictors</b>						
Parent's religiosity (Wave 3)	.10***	-.002	.02	.01	4.62	-.33
Nurturant-Involved Parenting (Wave 3)	.01	-.001	.01	.002	1.02	-.27
Neighborhood Cohesion (Wave 3)	.00	.002	.02	.01	.02	.29
<b>Covariates</b>						
Target's gender (1 = male)	-.14*	-.01	.06	.02	-2.55	-1.20
Parental Education	-.01	.01	.03	.01	-.25	-.79
Target's State (1 = IA)	-.26***	-.03*	.06	.02	-4.51	-1.98

*Note.* *N* = 769. \**p* < .05, \*\**p* < .01, \*\*\**p* < .001. A positive effect on the linear change indicates importance of religion declines slower than others, while a negative coefficient indicates a faster decline on importance of religion.

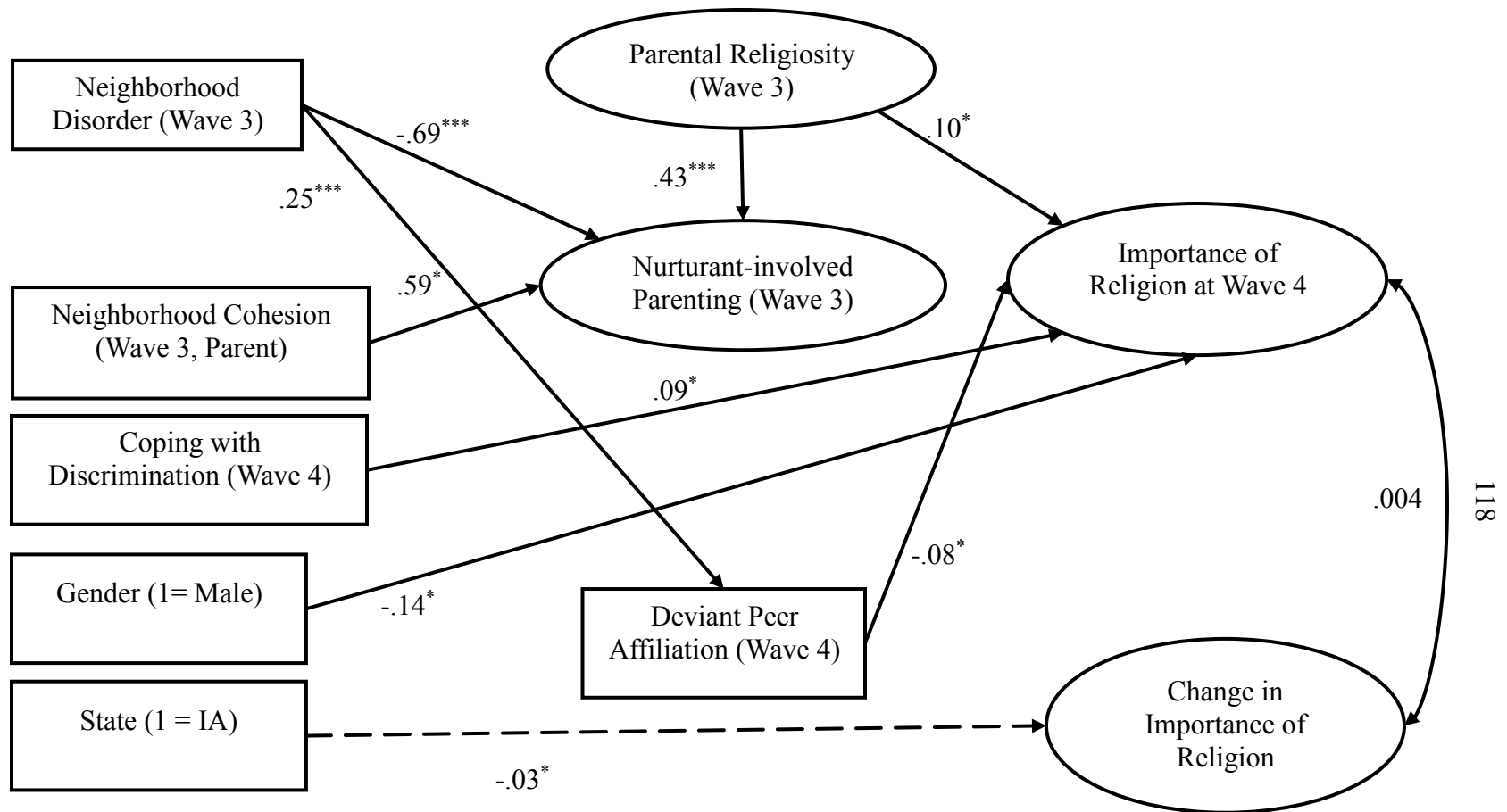


Figure 14. Importance of Religion during Young Adulthood.  $N=769$ .  $^*p < .05$ ,  $^{**}p < .01$ ,  $^{***}p < .001$ . Only significant paths are presented. Solid lines represent prediction to importance of religion at Wave 4, while dashed lines represent prediction to change in importance of religion. A *positive* effect on the linear change indicates importance of religion declines *slower* than others, while a *negative* coefficient indicates a *faster* decline on importance of religion.

*Church attendance.* Results from the church attendance causal model indicated that neighborhood disorder was negatively associated with nurturant- involved parenting at Wave 3 ( $b = -.69, p < .001$ ) and positively associated with affiliation with deviant peers at Wave 4 ( $b = .25, p < .001$ ). Deviant peer affiliation at Wave 4 was negatively predictive of change in church attendance over time ( $b = -.03, p < .05$ ). Thus, the unstandardized coefficient and the standard error for the association between neighborhood disorder at Wave 3 and deviant peer affiliation at Wave 4 ( $b = .25, SE = .05$ ) as well as the unstandardized coefficient and standard error for the association between deviant peer affiliation at Wave 4 and the liner change in church attendance ( $b = -.03, SE = .01$ ) were used to calculate the critical ratio. The Sobel test indicated a significant mediation effect of deviant peer affiliation at Wave 4 on the relationship between neighborhood disorder at Wave 3 and the linear change in church attendance during young adulthood ( $z = -2.16, p < .05$ ).

*Church group discussion.* Results from causal model indicated that neighborhood disorder at Wave 3 was negatively associated with nurturant- involved parenting at Wave 3 ( $b = -.69, p < .001$ ) and positively associated with affiliation with deviant peers at Wave 4 ( $b = .25, p < .001$ ). Affiliation with deviant peers at Wave 4 was marginally associated with the change in church group discussion participation over time. However, neither nurturant-involved parenting at Wave 3 nor deviant peer affiliation at Wave 4 had a direct effect on the initial level or linear change in church group discussion. Thus, the present study did not find nurturant-involved parenting at Wave 3 or deviant peer affiliation at Wave 4 mediated the relationship between either neighborhood disorder or



cohesion at Wave 3 and initial and linear change in church group discussion participation.

*Importance of religion.* The unstandardized coefficient and the standard error for the association between neighborhood disorder at Wave 3 and deviant peer affiliation at Wave 4 ( $b = .25, SE = .05$ ) as well as the unstandardized coefficient and standard error for the association between deviant peer affiliation at Wave 4 and the importance of religion at Wave 4 ( $b = -.08, SE = .03$ ) were used to calculate the critical ratio. Results from the Sobel test indicated a significant mediation effect of deviant peer affiliation at Wave 4 on the relationship between neighborhood disorder at Wave 3 and the importance of religion at Wave 4 ( $z = -2.24, p < .01$ ).

Similarly, the unstandardized path coefficient and the standard error for the association between neighborhood cohesion at Wave 3 and deviant peer affiliation at Wave 4 ( $b = -.07, SE = .04$ ) as well as the unstandardized coefficient and standard error for the association between deviant peer affiliation at Wave 4 and the importance of religion at Wave 4 ( $b = -.08, SE = .03$ ) were used to calculate the critical ratio. Results from the Sobel test indicated a non-significant mediation effect of deviant peer affiliation on the relationship between neighborhood disorder at Wave 3 and importance of religion at Wave 4 ( $z = 1.45, p = .15$ ).

#### **Summary of the results for religious development during young adulthood.**

Results from the baseline model show declines in the frequency of church attendance and participation in church group discussions over time for this sample of young adults, but not for the change in the importance of religion. There was significant individual variability on both initial level and linear change in participation in church group

discussions. There was also significant individual variability in the initial level of church attendance but not for the linear change. Similarly, there was significant individual variability in the initial importance of religion but not for the linear change on this measure (see Table 34).

Results from the causal modeling analyses indicated that parental religiosity but not nurturant-involved parenting had significant positive associations with the frequency of church attendance, participation in church group discussions, and the importance of religion at Wave 4 among these African American young adults. African American males reported a lower frequency of church attendance and that religion was less important at Wave 4. African American young adults living in Iowa also reported less frequent church attendance at Wave 4. Cultural education and traditional moral beliefs predicted a higher frequency of church attendance and participation in church group discussions, but were unrelated to the importance of religion at Wave 4. Promotion of mistrust only predicted more frequent church attendance at Wave 4. Similarly, coping with discrimination was only positively associated with the importance of religion at Wave 4.

For the linear change in religiosity over time, young adults with parents who reported higher levels of parental religiosity at Wave 4 reported a slower decline in church attendance over time. However, parental religiosity was not related to the change in participation in church group discussions or the importance of religion. African American males reported a faster decline in church attendance, but gender was unrelated to the change in the participation in church group discussions or the importance of religion. Deviant peer affiliation and traditional moral beliefs only predicted a faster decline in the frequency of church attendance, but not participation in church group

discussions or the importance of religion. Finally, African American young adults who reported experiencing higher levels of discrimination also reported a slower decline in church attendance over time.

Results from the analysis of indirect effects of neighborhood characteristics on religiosity indicated that deviant peer affiliation significantly mediated the relationships between neighborhood disorder and the linear change in church attendance. There was also a significant indirect effect of neighborhood disorder on the initial importance of religion at Wave 4 through deviant peer affiliation. Nurturant-involved parenting did not significantly mediate the relationship between neighborhood disorder and religiosity (see Table 35).

Table 34

*Religious Development during Young Adulthood*

	Unstandardized estimates	SE	<i>p-value</i>
1. Church attendance- Intercept mean	2.11	.04	< .001
2. Church attendance -Intercept variance	.69	.13	< .001
3. Church attendance -Linear mean	-.05	.01	< .001
4. Church attendance - Linear variance	.01	.01	.48
5. Church group discussion - Intercept mean	1.52	.04	< .001
6. Church group discussion -Intercept variance	.72	.12	< .001
7. Church group discussion - Linear mean	-.03	.01	< .001
8. Church group discussion - Linear variance	.02	.01	< .05
9. Importance of religion -Intercept mean	3.29	.03	< .001
10. Importance of religion- Intercept variance	.24	.11	< .05
11. Importance of religion -Linear mean	.01	.01	.12
12. Importance of religion- Linear variance	.003	.01	.69

*Note.*  $N = 793$ .

Table 35

*Significant Indirect Effects of Deviant Peer Affiliation during Young Adulthood*

	Test statistic (z)	p- value
Neighborhood disorder		
a. Neighborhood disorder > Deviant peer affiliation > Linear change in church attendance	-2.16	< .05
b. Neighborhood disorder > Deviant peer affiliation > Importance of religion at Wave 4	2.24	< .01

Note.  $N = 769$ .

## CHAPTER 5: DISCUSSION

Most research on religiosity among adolescents and young adults has treated religiosity as a protective factor related to various developmental outcomes among African Americans. Less research has been done to examine predictors of religiosity during adolescence and young adulthood among African Americans. The present study examined the effect of the social environment on religiosity among African Americans. One purpose of this study was to investigate religious trajectories among African American adolescents as they transition into young adulthood, and how the aforementioned factors affect their religiosity over time.

The results from the present study partially supported the hypothesized relationships during both adolescence and young adulthood. These findings are discussed for adolescence and young adulthood separately, as well as how these results vary when compared between the two developmental periods. Finally, limitations of the present study, implications of the findings for future research, and the relevance of the findings for applied programs for these two age groups are discussed.

### **Religious Trajectories during Adolescence and Young Adulthood**

**Adolescence.** According to developmental systems theory (DST), the concept of plasticity is important in studying religious development among African Americans. In the present study, plasticity assumes the potential growth, decline, and stability in religiosity during adolescence. The present study hypothesized a general decrease in religiosity during adolescence, along with significant individual variability in this decline. The baseline model in the present study examined whether or not there was a significant change in religiosity over time among African Americans. Consistent with

previous research on religious and spiritual development during adolescence among the general population (Desmond, Morgan, & Kikuchi, 2010; Lopez, Huynh, & Fuligni, 2011; Hardie, Pearce, & Denton, 2013), the present study found a decline in church attendance, participation in church group discussions, and the importance of religion during adolescence. Similar to what other researchers have found using nationally representative samples, the present study also found that religious practices (i.e., church attendance and participating church group discussions) were more likely to show a rapid decline compared to the importance of religion among African American adolescents.

**Young adulthood.** As African Americans transition into young adulthood, they are able to engage in more independent decision-making apart from their parents. When the target adolescents in FACHS reached young adulthood, it appears that church attendance and participation in church group discussion continued to decline. The young adult participants in the present study reported lower levels of church attendance and participation in church group discussions at the beginning of young adulthood. Although there were no significant individual differences in the linear change in church attendance, these young adults still experienced significant declines in church attendance over time. Such a decline in religious participation is consistent with previous research on church attendance during young adulthood (Uecker, Regnerus, & Vaaler, 2007; Vaidyanathan, 2011; Koenig, 2015). Consistent with previous research among college students (Stoppa & Lefkowitz, 2010), the present study did not find a significant change in the importance of religion during young adulthood. I also did not find significant individual differences in the change in the importance of religion over time.

**Comparison between adolescence and young adulthood.** Although some previous research found that African American adolescents were more likely to remain religious than other ethnic groups (e.g., King & Roeser, 2009), results from the present study suggest that African American adolescents still experienced substantial declines in their religious behavior such as church attendance. By the time these African American adolescents reached young adulthood at Wave 4, their level of religious practice was lower than what they reported Wave 1. When comparing the pattern of change between adolescence and young adulthood, results from the present study suggest that the decline in religious behavior such as church attendance and participation in church group discussions was greater during adolescence (see Table 35). Specifically, there were major declines in church attendance and participation in church group discussions between the ages of 16 and 17 years during late adolescence, but not for the importance of religion. Yet, it also appears that the decline in participation in religious activities continued from adolescence to young adulthood.

The results indicated that the decline in church attendance per year was greater in adolescence (slope =  $-.11$ ) than young adulthood (slope =  $-.05$ ); similarly, the decrease in the frequency of participation in church group discussions was also greater in adolescence (slope =  $-.13$ ) than young adulthood (slope =  $-.03$ ). These results suggest that while the decline in religious behavior continued from adolescence into young adulthood, the rate of decline appeared to be slowing. By contrast, while participant's evaluation of the importance of religion decreased during adolescence (slope =  $-.02$ ) this decline appeared to have stopped during young adulthood (slope =  $.01$ ). These findings indicate that as African Americans transition from adolescence to young adulthood, different

aspects of their religious behavior and the perceived importance of religion went through different patterns of change over time during these two developmental periods. It is also important to note that the oldest target participants were 26 years of age at Wave 6. Therefore, the present study could not determine if the pattern of change in religiosity would be different as participants reached the end of young adulthood. Future research should examine whether or not these participants may experience different patterns of change in religiosity between the beginning and end of young adulthood.

### **Predictors of Religious Development during Adolescence**

The DST model emphasizes the significance of *context* in understanding human development. As a consequence of the integration of various sociocultural contexts, *developmental regulation* occurs through the mutually influential connections among all levels of developmental systems, represented as individual ↔ context relations. Using these two main concepts of DST, the present study hypothesized that the exchange between the individual and their surrounding contexts can either facilitate or hinder opportunities for change in religious development during both adolescence and young adulthood. To examine these two aspects of DST, the present study examined the influence of parents and peers on religiosity development, as well as the effects of neighborhood factors and cultural-specific factors on religious development during adolescence and young adulthood among African Americans. These factors and their impact on religious development are discussed below.

**Parental religiosity and parenting behavior.** Both parental religiosity and nurturant-involved parenting significantly predicted higher initial importance of religion for adolescents. Parental religiosity had significant direct effects on adolescents' church



attendance, participation in church group discussions, and the importance of religion at the beginning of adolescence. In addition, adolescents with parents who reported higher levels of religious participation experienced a slower decline in the importance of religion during this developmental period. These findings are consistent with previous research on parental religiosity, as Hardie et al. (2013) found parent's affiliation and attendance being one of the protective factors against the decline in religiosity from middle to late adolescence.

**Perceived discrimination.** Previous research has found that African American adolescents are more likely to report experiences with perceived discrimination than other adolescents of color. Research has documented the important role of religion in coping with perceived discrimination among African Americans. However, inconsistent with the hypothesized model, the present study did not find any significant relationships between African Americans' perceived discrimination and their religiosity over time during adolescence. This finding does not necessarily mean perceived discrimination does not play an important role in African Americans' religiosity during adolescence. As noted earlier, perceived discrimination was found to be highly correlated with both deviant peer affiliation and neighborhood disorder. Poverty, neighborhood disorder, community violence, and racial discrimination are often present in the lives of African Americans. Previous research has suggested that African American adolescents often do not experience perceived discrimination, deviant peer affiliation, and neighborhood disorder in isolation (Copeland-Linder, Lambert, Chen, & Jalongo, 2011). Some research has examined the combined effects of these contextual stressors on African American adolescents' development. For instance, Copeland-Linder et al. (2011) treated

neighborhood disorder, discrimination, and exposure to community violence as indicators of contextual stress and examined their joint effects on aggressive behavior and substance use among African American adolescents. They found the contextual stress latent variable had significant positive effects on aggressive behavior and substance use. Therefore, it is possible that perceived discrimination may not have unique effects on African American religiosity net of other contextual stressors examined in the present study.

**Deviant peer affiliation.** Consistent with previous research (Day et al., 2009; Desmond et al., 2010; Davignon, 2011), the present study found that African American adolescents affiliating with more deviant peers were more likely to experience a faster decline in church attendance and participation in church group discussions over time. In contrast with previous research, adolescents with higher levels of deviant peer affiliation at Wave 1 also reported more participation in church group discussions. Such inconsistent findings can reflect potential suppressor effects, in which the magnitude of a relationship between a predictor and an outcome variable becomes stronger when another predictor is included to the model. According to the measurement model results (see Table 16), the correlation between deviant peer affiliation and church group discussion at Wave 1 was not significant. However, deviant peer affiliation became significant in predicting greater participation in church group discussions at Wave 1 when controlling for other factors (Table 17). This effect appeared to be due to the nurturant-involved parenting predictor variable, which had a strong negative correlation with deviant peer affiliation during adolescence (see Table 9).

Finally, affiliating with deviant peers did not significantly predict the importance of religion at Wave 1 nor the linear change in the importance of religion over time. While Desmond et al. (2010) only examined the effects of deviant peer affiliation on religiosity among the general population, results from the present study indicate similar influences among African American adolescents. Peer behaviors do not seem to influence African Americans' private beliefs regarding whether or not religion is important in their lives. By contrast, affiliating with deviant peers may have a stronger impact on African American adolescents' religious behavior that can be observed by others such as their peers.

**Neighborhood factors.** The present study also examined the direct and indirect effects of neighborhood disorder and neighborhood cohesion on religiosity during adolescence. Results from the causal models suggest that there are significant indirect effects of neighborhood disorder on religious behaviors (i.e., church attendance and participation in group discussions) over time through deviant peer affiliation. These indirect effects of neighborhood disorder were not found for the importance of religion. Such findings are consistent with previous research on pathways through which neighborhood disorder may influence adolescent development through peer influences (Caputo, 2004; Brody, Ge, Conger, Gibbons, & Murry, 2001; Ge, Brody, Conger, Simons, & Murry, 2002). African American adolescents are more likely to engage in deviant behaviors with their peers if they live in a neighborhood where social disorganization is present, weakening adolescents' attachment to community institutions such as African American churches in the neighborhood.

Nurturant-involved parenting was also found to partially mediate the relationship between neighborhood disorder and both the initial importance of religion and participation in church group discussions. Such findings are consistent with previous research on neighborhood context and parenting (Simons, Lin, Gordon, Brody, & Conger, 2002; Leventhal, Dupéré, & Brooks-Gunn, 2009; Lamis, Wilso, Tarantino, Landsford, & Kaslow, 2014). Compared to deviant peer affiliation, it appears that parenting behaviors have a significant impact on both religious behaviors and private beliefs. These findings suggests that African Americans parents play an important role in reinforcing both religious behavior and beliefs at the beginning of adolescence.

**Gender and state of residence.** After controlling for the effects of the aforementioned factors, the present study still found that African American males reported lower levels of church attendance and participation in church group discussions at Wave 1 and experienced a faster decline in the importance of religion during adolescence. The present study also found that African American adolescents in Iowa were more likely to experience a faster decline in church attendance, participation in church group discussions, and a evaluate the importance of religion as lower at the beginning of the study compared to adolescents from Georgia. Such findings are consistent with previous research on geographic trends in the importance of religion and frequency of church attendance, with southern African Americans reporting significantly higher levels of religiosity. One potential explanation for these results involves the historical role of African American churches in the South. Such churches played an important role in responding to the oppressive social, political, and economic factors that characterized this region. As a consequence, African American churches often assumed a

variety of social welfare, educational, and political functions within black communities in the south (Taylor, Chatters, & Levin, 2004).

### **Predictors of Religiosity during Young Adulthood**

**Parental religiosity and parenting behavior.** Compared to the results for adolescence, only parental religiosity significantly predicted higher levels of church attendance, participation in church group discussions, and importance of religion at the beginning of young adulthood. African American young adults with more religious parents experienced a slower decline in church attendance over time; however, parental religiosity did not affect the change in participation in church group discussions. While parental religiosity continued to have a significant impact on their children's religiosity during young adulthood, nurturant- involved parenting at Wave 3 did not significantly predict religiosity at 18 years of age nor change in religiosity over time during young adulthood.

Such findings may be due to the transition from living with their parents to living independently for these young adults (Hardie, Pearce, & Denton, 2013). For those target adolescents who participated in FACHS, 169 of them were high school graduates and 265 of them were enrolled in college at the time of the Wave 4 interviews. When the targets were asked about their current living arrangements at Wave 4, 382 (54.1%) of them reported still living with their childhood family, 98 (13.7%) were living with other relatives, 90 (12.6%) reported other living arrangements (e.g., dorm, military), 61 (8.5%) were living alone, 41 (5.7%) were living with friends, and 38 (5.3%) of them were living with a romantic partner. At the time of the Wave 4 interviews, 95 (52%) of the targets reported they did not have any biological children, 97 (43.7%) reported having biological

children, and 30 (13.5%) reported having more than one child. As African American adolescents begin to move out of their parents' homes parenting behavior appears to have had less influence on their church attendance. Other factors such as starting a family of their own may also affect African Americans' church attendance. Future studies should examine how living arrangements and starting a family of their own may have an impact to African Americans' church attendance as they go through the transition to young adulthood.

**Racial socialization.** Starting at Wave 3, questions regarding racial socialization were asked of the target participants in the FACHS study. Such transmission of cultural values has been an important aspect of the practices of African Americans parents. As their children mature, parents tend to be more open to discussing race-related issues and providing information about racism and discrimination to their children. Furthermore, African American churches also serve as a medium for racial socialization (Brega & Coleman, 1999; Martin & McAdoo, 2007; Howard, Rose, & Barbarin, 2013). The present study is the first to specifically examine the effects of racial socialization on religiosity during young adulthood among the African American population. I found that different facets of racial socialization were associated with African American young adults' religiosity at the beginning of young adulthood at Wave 4. However, these socialization practices did not appear to affect the change in religiosity over time for the participants.

Among the four dimensions of social racial socialization, the present study found young adults with greater cultural education (i.e., activities promoting awareness of African American culture and history) reported higher levels of church attendance and

participation in church group discussions at the beginning of young adulthood (i.e., 18 years of age). Research has shown that cultural education is the most common of racial socialization messages received by African Americans (Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006). Since African American churches have historically led the fight for the rights of African Americans, greater cultural education may be more likely to convey the importance of going to church. Joyce (2012) found cultural education partially mediated the relationship between parental religiosity in the child's sixth grade year and greater religiosity in the eighth grade among African Americans. Although the present study was only able to examine cultural education and religious development during young adulthood, it appears that such education continues to have a significant impact during this developmental period for African Americans in terms of religious behaviors such as church attendance. Cultural education may play an important role in normative and healthy developmental processes for young adult African Americans.

Promotion of mistrust (i.e., whether family members had warned respondents to be wary and cautious in their dealings with other racial groups) also predicted higher initial church attendance during young adulthood. Previous research has documented that older children are more likely to receive messages that promote mistrust than younger children. Such messages often convey distrust and caution about interacting with other racial groups and emphasize racial barriers that can hinder success. However, these mistrust messages typically do not offer guidance regarding how to cope with racial discrimination. Research has shown that African American parents who experience higher levels of perceived discrimination were more likely to convey mistrust messages

to their children. Specifically, African Americans living in black or racially mixed neighborhoods are more likely to convey messages that promote mistrust, particularly when they live in neighborhoods with a negative social climate (Caughy, Nettles, O'Campo, & Lohrfink, 2006; Caughy, Nettles, & Lima, 2011). Therefore, one of the potential explanations for the positive association between receiving messages of mistrust and church attendance is the alienation of African American young adults from the mainstream society. As a consequence of mistrust of other racial groups these young adults may rely on seeking support and resources within the African American community such as the African American churches to meet their needs and cope with negative experiences such as racial discrimination.

Finally, coping with discrimination (e.g., family members' communications regarding ways of overcoming prejudice and discrimination) was associated with higher initial evaluation of the importance of religion during young adulthood. To the best of my knowledge, previous research has not examined the relationship between family members' communications regarding coping with discrimination and young adult religiosity. Analyses of data from the present study indicated that African American parents who are more religious were more likely to convey messages concerning cultural education, warnings about discrimination, and coping with discrimination to their young adult children. Therefore, young adults who received more communications from their family members' regarding coping with discrimination were also more likely to perceive religion as being important to their lives. Future research should examine whether or not there are potential indirect effects of racial socialization on the relationship between parental religiosity and young adulthood religiosity.



**Perceived discrimination.** Perceived discrimination only marginally predicted a slower decline in church attendance in the present study among young adults. In other words, African American young adults who perceived greater discrimination were more likely to attend church over time. This finding suggests there may be a bidirectional relationship between religiosity and perceived discrimination. As previously mentioned, the church has been one of the important coping resources for African Americans in coping with perceived discrimination. Therefore, if attending church is helping African American young adults in coping with perceived discrimination, they might be more likely to maintain their church attendance as they transition into young adulthood. However, it is also possible that experiencing high levels of perceived discrimination can lead to crisis in faith for the individual. Similar to the results for adolescents, the findings for young adults also indicated there were high correlations between perceived discrimination and deviant peer affiliation. Moreover, for different types of racial socialization, perceived discrimination was found to be moderately correlated with warnings about discrimination and coping with discrimination. While the present study did not examine the relationship between these two constructs, future studies should examine possible overlapping effects of racial socialization and perceived discrimination on African American religiosity over time.

**Deviant peer affiliation.** In contrast to the findings reported by Desmond et al. (2010), the present study found affiliation with deviant peers predicted a faster decline in church attendance for young adults. In contrast to the impact of deviant peer affiliation during adolescence, however, deviant peer affiliation during young adulthood was also associated with evaluating the importance of religion more negatively among the young

adult African Americans. It appears that deviant peer affiliation may play a more important role in both religious behavior and private religious beliefs during young adulthood. Such a change in the importance of peer influence on religiosity may also be due to African American young adults moving out of their parents' home, loosening ties to their family of origin.

**Neighborhood factors.** Neighborhood cohesion at Wave 3 was negatively associated with the linear change in church group discussion, indicating that participants living in neighborhoods with higher cohesion reported a faster decline in participation in church group discussions during young adulthood. This inconsistent finding may indicate that participation in church group discussion is unnecessary if they lived in a cohesive neighborhood or received cultural education at home.

There was a significant mediating effect of deviant peer affiliation on the association between neighborhood disorder and the importance of religion at 18 years of age. Young adults living in neighborhoods that were cohesive were less likely to affiliate with deviant peers. In turn, young adults with fewer deviant peers were more likely to report that religion was important. Consistent with the hypothesized model, there was also a significant indirect effect of neighborhood disorder on the linear change in church attendance through deviant peer affiliation. Finally, the present study found a significant indirect effect of neighborhood disorder on the initial importance of religion through deviant peer affiliation during young adulthood. These results are consistent with the *norms and collective efficacy* model, as African American young adults were more likely to engage in delinquent behaviors when community disadvantage and social disorganization were present (Caputo, 2004; Brody, Ge, Conger, Gibbons, & Murry,

2001; Ge, Brody, Conger, Simons, & Murry, 2002), and in turn reported lower initial religiosity and experienced a faster decline in religiosity over time.

**Traditional moral beliefs.** The target participants in FACHS were also asked about their traditional moral beliefs as they reached young adulthood. The present study found that African American young adults with higher levels of traditional moral beliefs also reported greater church attendance, more frequent participation in church group discussions, and that religion was more important at Wave 4 when they were 18 years of age. However, young adults who reported higher levels of traditional moral beliefs also reported a faster decline in church attendance over time. Interestingly, such a finding is consistent with what Desmond et al. (2010) found using data from the National Youth Survey. This finding might be an example of regression toward the mean, in which those with strong moral beliefs at Wave 4 cannot go to church more often. Thus, these individuals only have one direction to change, that there is only decline in church attendance over time among these young adults. In the present study, the measure of traditional moral beliefs was negatively skewed, with 12.8% of the participants receiving the highest possible scores on the measure. Future research should examine whether or not these African American young adults also experience changes in traditional moral beliefs, and how such changes may impact their religiosity over time.

**Gender and state of residence.** As was found for adolescence, males reported lower levels of church attendance and participation in church group discussions at Wave 4, and experienced a faster decline in the importance of religion during young adulthood. These findings are consistent with previous research on religiosity during young adulthood (Ginnoe & Moore, 2002), in which they found African American females

reported higher religiosity. The present study also found that African American young adults in Iowa were more likely to experience a faster decline in participation in church group discussions and the importance of religion during young adulthood. In sum, state and gender continue to have significant effects on religiosity during young adulthood.

### **Similarities and Differences in Religious Development during Adolescence and Young Adulthood**

Results from the present study suggest that there are variables which have a significant impact on religiosity for both African American adolescents and young adults. First, parental religiosity not only predicted change in religiosity during adolescence, but continued to have a significant impact on religiosity during young adulthood. Yet, the present study did not examine the change in parental religiosity, and whether or not such changes have a significant effect on their child's religiosity during adolescence and young adulthood. Future research should examine this issue. Moreover, it is also important to note that the majority of the primary caregivers were females in FACHS, and some of the target adolescents did not have a father presence in the household. Future research should examine the effect of father religiosity on the target child's religiosity during adolescence and young adulthood. The present study also found that deviant peer affiliation predicted lower religiosity and a faster decline in religiosity during both adolescence and young adulthood. Finally, both state of residence and gender had significant effects on religiosity during these two developmental periods in this African American sample. Specifically, males and African Americans in Iowa consistently reported lower levels of religiosity during both adolescence and young adulthood.

There also were differences in the results for these two developmental periods. As discussed earlier, the present study found parental religiosity and nurturant-involved parenting had different relationships with religious development for adolescence and young adulthood. As might be expected parenting was less important in influencing religiosity during young adulthood. This change in the impact of parenting may be due to participants moving out of their parents' home when they reached young adulthood to pursue higher education, employment, or starting their own family. It should also be noted, however, that other aspects of African American parenting practices such as racial socialization (i.e., cultural education, promotion of mistrust, and coping with discrimination) were important in predicting religious development during young adulthood. In addition, traditional moral beliefs and perceived discrimination also appear to shape African American young adults' religiosity. Results for these two developmental periods suggest that while African American young adults' religiosity continues to be shaped by their parents and peers, internal values such as moral beliefs and experiences with racial discrimination also have significant effects on their religiosity over time.

### **Limitation and Future Research**

While this study has a number of strengths, a few limitations should be noted. First, the sample was not representative of all African American adolescents and young adults in the United States. Participants in FACHS were only recruited from Iowa and Georgia. Associations among the study variables may vary for African American adolescents and young adults from other regions of the country. Second, due to the small number of participants from religious affiliations other than Protestant, the present study was not able to examine whether religious involvement varied as a function of affiliation

during adolescence and young adulthood. Third, effects of traditional moral beliefs and racial socialization on religiosity could not be examined during adolescence since the measures were not administered prior to the Wave 4 interviews. Future research should examine how these predictors affect religiosity during adolescence. Fourth, over-reporting of church attendance, participation in church group discussion, and the importance of religion is possible due to social desirability. However, it is still expected that these variables will differentiate between highly religious and non-religious individuals. Finally, the target adolescents' primary caregivers in FACHS were mostly African American women. Future research should examine the effect of African American men on their child's religiosity over time.

### **Implications**

Despite the centrality of church in African American history and research on the effect of religious involvement on various developmental outcomes among African American adolescents, limited research has been done on the role of the surrounding environment on religious development. The present study has focused on understanding religious development among African Americans as they transition from adolescence into young adulthood. Longitudinal data were utilized to examine patterns of changes in religious behaviors and beliefs during adolescence and young adulthood among African Americans. I also expanded upon previous research by examining the role of various social factors in religious development among African American adolescents and young adults.

Results from this study have practical implications for mental health professionals when assessing their African American clients' religiosity and spirituality before

providing them with assistance. Although it is true that religion plays an important role in the lives of many African Americans, results from the present study demonstrate that there are important individual differences in religiosity and spirituality among these individuals. While some African American individuals continued to be very religious over time, others reported declines in their religiosity due to their social environment. Mental health professionals should recognize such individual differences when providing treatment to their clients.

### **Conclusion**

The present study found that religiosity declined as African American adolescents transitioned into young adulthood. The findings expanded upon previous research by addressing the effect of various sociocultural factors on changes in religiosity over time. While the decline in religious behavior was more dramatic during adolescence in comparison to young adulthood, the importance of religion to the participants remained stable during both adolescence and young adulthood. Parental religiosity and deviant peer affiliation had a significant impact on religiosity during both adolescence and young adulthood, and factors such as racial socialization and traditional moral beliefs also played significant roles during young adulthood. Future studies should include more representative samples of African American participants and examine potential complex relationships among different social factors and their impact on religiosity among African Americans both within and between generations.

## REFERENCES

- Aalsma, M., Woodrome, S., Downs, S., Hensel, D., Zimet, G., Orr, D., & Fortenberry, J. (2013). Developmental trajectories of religiosity, sexual conservatism and sexual behavior among female adolescents. *Journal of Adolescence*, 36(6), 1193-1204. <http://dx.doi.org/10.1016/j.adolescence.2013.08.005>
- Bao, W., Whitbeck, L., Hoyt, D., & Conger, R. (1999). Perceived parental acceptance as a moderator of religious transmission among adolescent boys and girls. *Journal of Marriage and the Family*, 61(2), 362-374. <http://dx.doi.org/10.2307/353754>
- Benda, B. (1997). An examination of a reciprocal relationship between religiosity and different forms of delinquency within a theoretical model. *Journal of Research in Crime and Delinquency*, 34(2), 163-186. <http://dx.doi.org/10.1177/0022427897034002001>
- Barry, C., Padilla-Walker, L., & Nelson, L. (2011). The role of mothers and media on emerging adults' religious faith and practices by way of internalization of prosocial values. *Journal of Adult Development*, 19(2), 66-78. <http://dx.doi.org/10.1007/s10804-011-9135-x>
- Bierman, A. (2006). Does religion buffer the effects of discrimination on mental health? Differing effects by race. *J Scientific Study of Religion*, 45(4), 551-565. <http://dx.doi.org/10.1111/j.1468-5906.2006.00327.x>
- Boardman, J. D., & Saint Onge, J. M. (2005). Neighborhoods and adolescent development. *Children, Youth and Environments*, 15(1), 138-164.



- Boyatzis, C. & Janicki, D. (2003). Parent-child communication about religion: survey and diary data on unilateral transmission and bi-directional reciprocity styles. *Review of Religious Research*, 44(3), 252-270. <http://dx.doi.org/10.2307/3512386>
- Boyd-Franklin, N. (2010). Incorporating spirituality and religion into the treatment of African American clients. *The Counseling Psychologist*, 38(7), 976-1000. <http://dx.doi.org/10.1177/0011000010374881>
- Brega, A. & Coleman, L. (1999). Effects of religiosity and racial socialization on subjective stigmatization in African-American adolescents. *Journal of Adolescence*, 22(2), 223-242. <http://dx.doi.org/10.1006/jado.1999.0213>
- Brody, G., Stoneman, Z., Flor, D., & McCrary, C. (1994). Religion's role in organizing family relationships: family process in rural, two-parent African American families. *Journal of Marriage and the Family*, 56(4), 878-888. <http://dx.doi.org/10.2307/353600>
- Brody, G., Stoneman, Z., & Flor, D. (1996). Parental religiosity, family processes, and youth competence in rural, two-parent African American families. *Developmental Psychology*, 32(4), 696-706. <http://dx.doi.org/10.1037/0012-1649.32.4.696>
- Brody, G., Conger, R., Gibbons, F., Ge, X., McBride Murry, V., Gerrard, M., & Simons, R. (2001). The influence of neighborhood disadvantage, collective socialization, and parenting on African American children's affiliation with deviant peers. *Child Development*, 72(4), 1231-1246. <http://dx.doi.org/10.1111/1467-8624.00344>

Brody, G., Chen, Y., Murry, V., Ge, X., Simons, R., & Gibbons, F. et al. (2006).

Perceived discrimination and the adjustment of African American youths: a five-year longitudinal analysis with contextual moderation effects. *Child Development*, 77(5), 1170-1189. <http://dx.doi.org/10.1111/j.1467-8624.2006.00927.x>

Burr, B., Kuns, J., Atkins, L., Bertram, A., & Sears, K. (2015). Generation to generation:

passing on religious and spiritual beliefs and practices. *Journal of Religion, Spirituality & Aging*, 27(2-3), 183-200.

<http://dx.doi.org/10.1080/15528030.2015.1007544>

Buser, J. (2009). Treatment-seeking disparity between African Americans and whites:

attitudes toward treatment, coping resources, and racism. *Journal of Multicultural Counseling and Development*, 37(2), 94-104. <http://dx.doi.org/10.1002/j.2161-1912.2009.tb00094.x>

Butler-Barnes, S., Martin, P., Copeland-Linder, N., Seaton, E., Matusko, N., Caldwell,

C., & Jackson, J. (2016). The protective role of religious involvement in African American and Caribbean black adolescents' experiences of racial discrimination. *Youth & Society*, 1-29. <http://dx.doi.org/10.1177/0044118x15626063>

Bynum, M. S., Burton, E. T., & Best, C. (2007). Racism experiences and psychological

functioning in African American college freshmen: Is racial socialization a buffer? *Cultural Diversity and Ethnic Minority Psychology*, 13(1), 64-71.

Cain, D. (2007). The effects of religiousness on parenting stress and practices in the

African American family. *Families in Society: The Journal of Contemporary Social Services*, 88(2), 263-272. doi:10.1606/1044-3894.3624

- Caputo, R. (2004). Parent religiosity, family processes, and adolescent outcomes. *Families in Society: The Journal of Contemporary Social Services*, 85(4), 495-510. <http://dx.doi.org/10.1606/1044-3894.1837>
- Caughy, M., Nettles, S., O'Campo, P., & Lohrfink, K. (2006). Neighborhood matters: racial socialization of African American children. *Child Development*, 77(5), 1220-1236. <http://dx.doi.org/10.1111/j.1467-8624.2006.00930.x>
- Chan, M., Tsai, K., & Fuligni, A. (2014). Changes in religiosity across the transition to young adulthood. *J Youth Adolescence*, 44(8), 1555-1566. <http://dx.doi.org/10.1007/s10964-014-0157-0>
- Chapman, L. & Steger, M. (2010). Race and religion: differential prediction of anxiety symptoms by religious coping in African American and European American young adults. *Depression and Anxiety*, 27(3), 316-322. <http://dx.doi.org/10.1002/da.20510>
- Chatters, L., Taylor, R., Bullard, K., & Jackson, J. (2009). Race and ethnic differences in religious involvement: African Americans, Caribbean blacks and non-Hispanic whites. *Ethnic and Racial Studies*, 32(7), 1143-1163. <http://dx.doi.org/10.1080/01419870802334531>
- Chavous, T., Rivas-Drake, D., Smalls, C., Griffin, T., & Cogburn, C. (2008). Gender matters, too: The influences of school racial discrimination and racial identity on academic engagement outcomes among African American adolescents. *Developmental Psychology*, 44(3), 637-654. <http://dx.doi.org/10.1037/0012-1649.44.3.637>

- Chung, H. & Steinberg, L. (2006). Relations between neighborhood factors, parenting behaviors, peer deviance, and delinquency among serious juvenile offenders. *Developmental Psychology*, 42(2), 319-331. <http://dx.doi.org/10.1037/0012-1649.42.2.319>
- Coll, C., Crnic, K., Lamberty, G., Wasik, B., Jenkins, R., Garcia, H., & McAdoo, H. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67(5), 1891-1914. <http://dx.doi.org/10.1111/j.1467-8624.1996.tb01834.x>
- Conger, R. D., Wallace, L. E., Sun, Y., Simons, R. L., McLoyd, V. C., & Brody, G. H. (2002). Economic pressure in African American families: A replication and extension of the family stress model. *Developmental Psychology*, 38(2), 179–193. doi:10.1037/0012-1649.38.2.179
- Copeland-Linder, N., Lambert, S. F., Chen, Y. F., & Ialongo, N. S. (2011). Contextual stress and health risk behaviors among African American adolescents. *Journal of youth and adolescence*, 40(2), 158-173. <http://dx.doi.org/10.1007/s10964-010-9520-y>
- Cutrona, C. E., Russell, D. W., Hessling, R. M., Brown, P. A., & Murry, V. (2000). Direct and moderating effects of community context on the psychological well-being of African American women. *Journal of Personality and Social Psychology*, 79(6), 1088–1101. doi:10.1037/0022-3514.79.6.1088
- Davignon, P. P. (2011). *The effects of negative peer and media influences on adolescent religiosity* (Doctoral dissertation).

- Day, R., Jones-Sanpei, H., Smith Price, J., Orthner, D., Hair, E., Moore, K., & Kaye, K. (2009). Family processes and adolescent religiosity and religious practice: view from the NLSY97. *Marriage & Family Review*, 45(2-3), 289-309.  
<http://dx.doi.org/10.1080/01494920902735109>
- Desmond, S. & Kraus, R. (2014). The effects of importance of religion and church attendance on adolescents' moral beliefs. *Sociological Focus*, 47(1), 11-31.  
<http://dx.doi.org/10.1080/00380237.2014.853282>
- Desmond, S., Morgan, K., & Kikuchi, G. (2010). Religious development: how (and why) does religiosity change from adolescence to young adulthood? *Sociological Perspectives*, 53(2), 247-270. <http://dx.doi.org/10.1525/sop.2010.53.2.247>
- Desmond, S., Soper, S., Purpura, D., & Smith, E. (2008). Religiosity, moral beliefs, and delinquency: does the effect of religiosity on delinquency depend on moral beliefs? *Sociological Spectrum*, 29(1), 51-71.  
<http://dx.doi.org/10.1080/02732170802480527>
- Desmond, S., Soper, S., & Kraus, R. (2011). Religiosity, peers, and delinquency: does religiosity reduce the effect of peers on delinquency? *Sociological Spectrum*, 31(6), 665-694. <http://dx.doi.org/10.1080/02732173.2011.606725>
- Dudley, R. L., & Wisbey, R. L. (2000). The relationship of parenting styles to commitment to the church among young adults. *Religious Education*, 95(1), 38–50. doi:10.1080/0034408000950105

- Eck, D. (2007). Religion. In M. C. Waters & R. Ueda (Eds.). *The new Americans: A guide to immigration since 1965* (pp. 214 –227). Cambridge, MA: Harvard University Press.
- Ellison, C. G., Musick, M. A., & Henderson, A. K. (2008). Balm in Gilead: racism, religious involvement, and psychological distress among African American adults. *Journal for the Scientific Study of Religion*, 47(2), 291-309.
- Ellison, C. & Flannelly, K. (2009). Religious involvement and risk of major depression in a prospective nationwide study of African American adults. *The Journal of Nervous and Mental Disease*, 197(8), 568-573.  
<http://dx.doi.org/10.1097/nmd.0b013e3181b08f45>
- Fisher, C. B., Wallace, S. A., & Fenton, R. E. (2000). Discrimination distress during adolescence. *Journal of youth and adolescence*, 29(6), 679-695.
- Flor, D. & Knapp, N. (2001). Transmission and transaction: Predicting adolescents' internalization of parental religious values. *Journal of Family Psychology*, 15(4), 627-645. <http://dx.doi.org/10.1037/0893-3200.15.4.627>
- Gapen, M., Cross, D., Ortigo, K., Graham, A., Johnson, E., & Evces, M. et al. (2011). Perceived neighborhood disorder, community cohesion, and PTSD symptoms among low-income African Americans in an urban health setting. *American Journal of Orthopsychiatry*, 81(1), 31-37. <http://dx.doi.org/10.1111/j.1939-0025.2010.01069.x>

- Ge, X., Brody, G., Conger, R., Simons, R., & Murry, V. (2002). Contextual amplification of pubertal transition effects on deviant peer affiliation and externalizing behavior among African American children. *Developmental Psychology*, 38(1), 42-54.  
<http://dx.doi.org/10.1037/0012-1649.38.1.42>
- Gibbons, F. X., Gerrard, M., Cleveland, M. J., Wills, T. A., & Brody, G. (2004). Perceived discrimination and substance use in African American parents and their children: A panel study. *Journal of Personality and Social Psychology*, 86, 517–529. doi:10.1037/0022-3514.86.4.517
- Gibbons, F., Kingsbury, J., Weng, C., Gerrard, M., Cutrona, C., Wills, T., & Stock, M. (2014). Effects of perceived racial discrimination on health status and health behavior: A differential mediation hypothesis. *Health Psychology*, 33(1), 11-19.  
<http://dx.doi.org/10.1037/a0033857>
- Granberg, E., Edmond, M., Simons, R., Gibbons, F., & Lei, M. (2012). The association between racial socialization and depression: testing direct and buffering associations in a longitudinal cohort of African American young adults. *Society and Mental Health*, 2(3), 207-225. <http://dx.doi.org/10.1177/2156869312451152>
- Gunnoe, M. L., Hetherington, E. M., & Reiss, D. (1999). Parental religiosity, parenting style, and adolescent social responsibility. *The Journal of Early Adolescence*, 19(2), 199–225. doi:10.1177/0272431699019002004
- Gunnoe, M. & Moore, K. (2002). Predictors of religiosity among youth aged 17-22: a longitudinal study of the national survey of children. *J Sci Stud Rel*, 41(4), 613-622. <http://dx.doi.org/10.1111/1468-5906.00141>

- Gutierrez, I., Goodwin, L., Kirkinis, K., & Mattis, J. (2014). Religious socialization in African American families: The relative influence of parents, grandparents, and siblings. *Journal of Family Psychology*, 28(6), 779-789.  
<http://dx.doi.org/10.1037/a0035732>
- Greer, T. & Chwalisz, K. (2007). Minority-related stressors and coping processes among African American college students. *Journal of College Student Development*, 48(4), 388-404. <http://dx.doi.org/10.1353/csd.2007.0037>
- Hardie, J., Pearce, L., & Denton, M. (2013). The dynamics and correlates of religious service attendance in adolescence. *Youth & Society*, 48(2), 151-175.  
<http://dx.doi.org/10.1177/0044118x13483777>
- Hardy, S. A., White, J. A., Zhang, Z., & Ruchty, J. (2011). Parenting and the socialization of religiousness and spirituality. *Psychology of Religion and Spirituality*, 3(3), 217–230. doi:10.1037/a0021600
- Harrison, A. O., Wilson, M. N., Pine, C. J., Chan, S. Q., & Buriel, R. (1990). Family ecologies of ethnic minority children. *Child development*, 61(2), 347-362.
- Harris-Britt, A., Valrie, C. R., Kurtz-Costes, B., & Rowley, S. J. (2007). Perceived racial discrimination and self-esteem in African American youth: Racial socialization as a protective factor. *Journal of Research on Adolescence*, 17(4), 669–682.  
doi:10.1111/j.1532-7795.2007.00540.x
- Hoge, D., Petrillo, G., & Smith, E. (1982). Transmission of religious and social values from parents to teenage children. *Journal of Marriage and the Family*, 44(3), 569-580. <http://dx.doi.org/10.2307/351580>



- Howard, L., Rose, J., & Barbarin, O. (2013). Raising African American boys: An exploration of gender and racial socialization practices. *American Journal of Orthopsychiatry*, 83(2-3), 218-230. <http://dx.doi.org/10.1111/ajop.12031>
- Hughes, D. L., & Chen, L. A. (1997). When and what parents tell children about race: An examination of race-related socialization among African American families. *Applied Developmental Science*, 1, 198–212.
- Hughes, D., & Johnson, D. (2001). Correlates in children's experiences of parents' racial socialization behaviors. *Journal of Marriage & the Family*, 63, 981-995.
- Hughes, D., Rodriguez, J., Smith, E., Johnson, D., Stevenson, H., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology*, 42(5), 747-770. <http://dx.doi.org/10.1037/0012-1649.42.5.747>
- Jagers, R. J. (1998). Afrocultural integrity and the social development of African-American children: Some conceptual, empirical, and practical considerations. *Journal of Prevention & Intervention in the Community*, 16(1-2), 7-34.
- Jang, S. & Johnson, B. (2001). Neighborhood disorder, individual religiosity, and adolescent use of illicit drugs: a test of multilevel hypotheses\*. *Criminology*, 39(1), 109-144. <http://dx.doi.org/10.1111/j.1745-9125.2001.tb00918.x>
- Johnson, B. R., Jang, S. J., De Li, S., & Larson, D. (2000). The 'invisible institution' and Black youth crime: The church as an agency of local social control. *Journal of Youth and Adolescence*, 29(4), 479-498.

- Johnson, B., Jang, S., Larson, D., & De Li, S. (2001). Does adolescent religious commitment matter? A reexamination of the effects of religiosity on delinquency. *Journal of Research in Crime and Delinquency*, 38(1), 22-44.  
<http://dx.doi.org/10.1177/0022427801038001002>
- Jones, J. (2007). Exposure to chronic community violence: resilience in African American children. *Journal of Black Psychology*, 33(2), 125-149.  
<http://dx.doi.org/10.1177/0095798407299511>
- King, P. E., & Roeser, R. W. (2009). Religion and spirituality in adolescent development. *Handbook of adolescent psychology*.
- Koenig, H., McCullough, M., & Larson, D. (2001). *Handbook of religion and health*. Oxford: Oxford University Press.
- Koenig, L. (2015). Change and stability in religiousness and spirituality in emerging adulthood. *The Journal of Genetic Psychology*, 176(6), 369-385.  
<http://dx.doi.org/10.1080/00221325.2015.1082458>
- Kogan, S., Luo, Z., Murry, V., & Brody, G. (2005). Risk and protective factors for substance use among African American high school dropouts. *Psychology of Addictive Behaviors*, 19(4), 382-391. <http://dx.doi.org/10.1037/0893-164x.19.4.382>
- Kelly, P., Polanin, J., Jang, S., & Johnson, B. (2015). Religion, delinquency, and drug use: A meta-analysis. *Criminal Justice Review*, 40(4), 505-523.  
<http://dx.doi.org/10.1177/0734016815605151>

- Lamis, D., Wilson, C., Tarantino, N., Lansford, J., & Kaslow, N. (2014). Neighborhood disorder, spiritual well-being, and parenting stress in African American women. *Journal of Family Psychology*, 28(6), 769-778.  
<http://dx.doi.org/10.1037/a0036373>
- Landor, A., Simons, L., Simons, R., Brody, G., & Gibbons, F. (2010). The role of religiosity in the relationship between parents, peers, and adolescent risky sexual behavior. *J Youth Adolescence*, 40(3), 296-309. <http://dx.doi.org/10.1007/s10964-010-9598-2>
- Leonard, K., Cook, K., Boyatzis, C., Kimball, C., & Flanagan, K. (2013). Parent-child dynamics and emerging adult religiosity: Attachment, parental beliefs, and faith support. *Psychology of Religion and Spirituality*, 5(1), 5-14.  
<http://dx.doi.org/10.1037/a0029404>
- Lerner, R. M., Lewin-Bizan, S., & Warren, A. E. A. (2011). Concepts and theories of human development. *Developmental science: An advanced textbook* (pp. 3-49). New York: Psychology Press.
- Levenson, M.R., Aldwin, C.M, & D'Mello, M. (2005). Religious development from adolescence to middle adulthood. In R.F. Paloutzian & C.L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 144–161). New York: Guilford Press.
- Leventhal, T., Dupéré, V., & Brooks-Gunn, J. (2009). Neighborhood influences on adolescent development. *Handbook of adolescent psychology*.

- Levin, J., Taylor, R., & Chatters, L. (1995). A multidimensional measure of religious involvement for African Americans. *Sociological Quarterly*, 36(1), 157-173.  
<http://dx.doi.org/10.1111/j.1533-8525.1995.tb02325.x>
- Letiecq, B. (2007). African American fathering in violent neighborhoods: what role does spirituality play? *Fathering: A Journal of Theory, Research, and Practice about Men as Fathers*, 5(2), 111-128. <http://dx.doi.org/10.3149/fth.0502.111>
- Lincoln, C. & Mamiya, L. (1990). *The Black church in the African-American experience*. Durham: Duke University Press.
- Martin, P. P., & McAdoo, H. P. (2007). Sources of racial socialization: Theological orientation of African American churches and parents. *Black families*, 125-142.
- Martin, T., White, J., & Perlman, D. (2003). Religious socialization: a test of the channeling hypothesis of parental influence on adolescent faith maturity. *Journal of Adolescent Research*, 18(2), 169-187.  
<http://dx.doi.org/10.1177/0743558402250349>
- Maton, K. (2001). Spirituality, religion, and community psychology: Historical perspective, positive potential, and challenges. *Journal of Community Psychology*, 29(5), 605-613. <http://dx.doi.org/10.1002/jcop.1039>
- Mattis, J. (2000). African American women's definitions of spirituality and religiosity. *Journal of Black Psychology*, 26(1), 101-122.  
<http://dx.doi.org/10.1177/0095798400026001006>

- Mattis, J., Eubanks, K., Zapata, A., Grayman, N., Belkin, M., Mitchell, N., & Cooper, S. (2004). Factors influencing religious non-attendance among African American men: a multimethod analysis. *Review of Religious Research*, 45(4), 386-403.  
<http://dx.doi.org/10.2307/3511993>
- Mattis, J. S. (2005). Religion in African American life. *African American family life: Ecological and Cultural Diversity*, 189-210.
- Mattis, J. S., & Grayman-Simpson, N. (2013). Faith and the sacred in African American life. *Handbook of religion, spirituality, and psychology*, 547-564.
- Mattis, J. S., & Watson, C. R. (2009). Religion and Spirituality. In B. M. Tynes, S. O. Utsey, A. Neville (Eds.). *Handbook of African American psychology* (pp. 91–102). Thousand Oaks, CA: SAGE Publications.
- McNamara Barry, C., Nelson, L., Davarya, S., & Urry, S. (2010). Religiosity and spirituality during the transition to adulthood. *International Journal of Behavioral Development*, 34(4), 311-324. <http://dx.doi.org/10.1177/0165025409350964>
- Melby, J. N., & Conger, R. D. (2001). The Iowa Family Interaction Rating Scales: Instrument summary.
- Murry, V., Heflinger, C., Suiter, S., & Brody, G. (2011). Examining perceptions about mental health care and help-seeking among rural African American families of adolescents. *J Youth Adolescence*, 40(9), 1118-1131.  
<http://dx.doi.org/10.1007/s10964-010-9627-1>

- Myers, S. (1996). An interactive model of religiosity inheritance: the importance of family context. *American Sociological Review*, 61(5), 858-866.  
<http://dx.doi.org/10.2307/2096457>
- Newman, B. M., & Newman, P. R. (2014). *Development through life: A psychosocial approach*. Cengage Learning.
- O'Brien, R. M. (1990). Estimating the reliability of aggregate-level variables based on individual-level characteristics. *Sociological Methods & Research*, 18(4), 473–504. doi:10.1177/0049124190018004004
- Odom, E. & Vernon-Feagans, L. (2010). Buffers of racial discrimination: links with depression among rural African American mothers. *Journal of Marriage and Family*, 72(2), 346-359. <http://dx.doi.org/10.1111/j.1741-3737.2010.00704.x>
- Oravec, L., Koblinsky, S., & Randolph, S. (2008). Community violence, inter-partner conflict, parenting, and social support as predictors of the social competence of African American preschool children. *Journal of Black Psychology*, 34(2), 192-216. <http://dx.doi.org/10.1177/0095798408314142>
- Paris, P. J. (1985). *The social teaching of the black churches*. Fortress Press.
- Phinney, J. S., & Chavira, V. (1995). Parental ethnic socialization and adolescent coping with problems related to ethnicity. *Journal of research on adolescence*, 5(1), 31-53.
- Preacher, K., & Leonardelli, G (2010). *Calculation for the Sobel Test: An interactive calculation tool for mediation tests*. *Quantpsy.org*. Retrieved from <http://quantpsy.org/sobel/sobel.htm>

- Prelow, H. M., Danoff-Burg, S., Swenson, R. R., & Pugliano, D. (2004). The impact of ecological risk and perceived discrimination on the psychological adjustment of African American and European American youth. *Journal of Community Psychology*, 32(4), 375-389. doi: 10.1002/jcop.20007
- Prelow, H. M., Mosher, C. E., & Bowman, M. A. (2006). Perceived racial discrimination, social support, and psychological adjustment among African American college students. *Journal of Black Psychology*, 32(4), 442-454.  
doi:10.1177/0095798406292677
- America's Changing Religious Landscape*. (2015). *Pew Research Center's Religion & Public Life Project*. Retrieved 10 June 2016, from  
<http://www.pewforum.org/2015/05/12/americas-changing-religious-landscape>
- Rankin, B. & Quane, J. (2002). Social contexts and urban adolescent outcomes: the interrelated effects of neighborhoods, families, and peers on African American youth. *Social Problems*, 49(1), 79-100. <http://dx.doi.org/10.1525/sp.2002.49.1.79>
- Regnerus, M. (2003). Religion and positive adolescent outcomes: a review of research and theory. *Review of Religious Research*, 44(4), 394-413.  
<http://dx.doi.org/10.2307/3512217>
- Regnerus, M., Smith, C., & Smith, B. (2004). Social context in the development of adolescent religiosity. *Applied Developmental Science*, 8(1), 27-38.  
[http://dx.doi.org/10.1207/s1532480xads0801\\_4](http://dx.doi.org/10.1207/s1532480xads0801_4)

- Riina, E., Martin, A., Gardner, M., & Brooks-Gunn, J. (2012). Context matters: links between neighborhood discrimination, neighborhood cohesion and African American adolescents' adjustment. *J Youth Adolescence*, 42(1), 136-146.  
<http://dx.doi.org/10.1007/s10964-012-9804-5>
- Rodriguez, J., McKay, M., & Bannon, W. (2008). The role of racial socialization in relation to parenting practices and youth behavior: an exploratory analysis. *Social Work in Mental Health*, 6(4), 30-54.  
<http://dx.doi.org/10.1080/15332980802032409>
- Samaan, R. (2000). The influences of race, ethnicity, and poverty on the mental health of children. *Journal of Health Care for the Poor and Underserved*, 11(1), 100-110.  
<http://dx.doi.org/10.1353/hpu.2010.0557>
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277, 918-924.
- Schmitt, M., Branscombe, N., Postmes, T., & Garcia, A. (2014). The consequences of perceived discrimination for psychological well-being: A meta-analytic review. *Psychological Bulletin*, 140(4), 921-948. <http://dx.doi.org/10.1037/a0035754>
- Skogan, W. G., and Maxfield, M. G. (1981). *Coping with Crime: Individual and Neighborhood Reactions*. Sage, Beverley Hills, CA.
- Smith, C., Denton, M., Faris, R., & Regnerus, M. (2002). Mapping American adolescent religious participation. *J Sci Stud Rel*, 41(4), 597-612.  
<http://dx.doi.org/10.1111/1468-5906.00148>



- Smith, C., & Denton, M. (2005). *Soul searching: The religious and spiritual lives of American teenagers*. New York: Oxford University Press.
- Simons, L. G., Simons, R. L., & Conger, R. D. (2004). Identifying the mechanisms whereby family religiosity influences the probability of adolescent antisocial behavior. *Journal of Comparative Family Studies*, 547-563.
- Simons, R., Lin, K., Gordon, L., Brody, G., Murry, V., & Conger, R. (2002). Community differences in the association between parenting practices and child conduct problems. *J Marriage and Family*, 64(2), 331-345.  
<http://dx.doi.org/10.1111/j.1741-3737.2002.00331.x>
- Simons, R., Simons, L., Burt, C., Brody, G., & Cutrona, C. (2005). Collective efficacy, authoritative parenting and delinquency: a longitudinal test of a model integrating community-and family-level processes\*. *Criminology*, 43(4), 989-1029.  
<http://dx.doi.org/10.1111/j.1745-9125.2005.00031.x>
- Spilka, B., Hood, R., & Hunsberger, B. (2003). *The psychology of religion*. New York, N.Y.: Guilford Press.
- Steinman, K., Ferketich, A., & Sahr, T. (2006). The dose-response relationship of adolescent religious activity and substance use: variation across demographic groups. *Health Education & Behavior*, 35(1), 22-43.  
<http://dx.doi.org/10.1177/1090198105284839>
- Stoppa, T. & Lefkowitz, E. (2010). Longitudinal changes in religiosity among emerging adult college students. *Journal of Research on Adolescence*, 20(1), 23-38.  
<http://dx.doi.org/10.1111/j.1532-7795.2009.00630.x>

Taylor, R., Chatters, L., & Levin, J. (2004). *Religion in the lives of African Americans*.

Thousand Oaks: Sage Publications.

Taylor, R., Mattis, J., & Chatters, L. (1999). Subjective religiosity among African

Americans: a synthesis of findings from five national samples. *Journal of Black*

*Psychology*, 25(4), 524-543. <http://dx.doi.org/10.1177/0095798499025004004>

Taylor, R. J., Chatters, L. M., & Brown, R. K. (2013). African American religious

participation. *Review of Religious Research*, 56(4), 513–538. doi:10.1007/s13644-

013-0144-z

Thomas, E. & Mitchell, H. (1994). *Preaching for black self-esteem*. Nashville: Abingdon

Press.

Uecker, J., Regnerus, M., & Vaaler, M. (2007). Losing my religion: the social sources of

religious decline in early adulthood. *Social Forces*, 85(4), 1667-1692.

<http://dx.doi.org/10.1353/sof.2007.0083>

Wiley, A. R., Warren, H. B., & Montanelli, D. S. (2002). Shelter in a time of storm:

Parenting in poor rural African American Communities. *Family Relations*, 51(3),

265–273. doi:10.1111/j.1741-3729.2002.00265.x

## APPENDIX A: IRB APPROVAL

**IOWA STATE UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

Institutional Review Board  
Office for Responsible Research  
Vice President for Research  
1138 Pearson Hall  
Ames, Iowa 50011-2207  
515-294-4300  
FAX 515-294-4267

**Date:** 5/23/2016

**To:** Yuk Ching Pang  
302 MacKay Hall

**CC:** Dr. Daniel Russell  
1085 Elm Hall

**From:** Office for Responsible Research

**Title:** Religiosity among African American Young Adults

**IRB ID:** 16-235

**Study Review Date:** 5/20/2016

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified directly or through identifiers linked to the subjects.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

**Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form.** A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.

Please be aware that **approval from other entities may also be needed**. For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or [IRB@iastate.edu](mailto:IRB@iastate.edu).

## APPENDIX B: MEASUREMENT

<b>Variables</b>	<b>Definition</b>	<b>Measure</b>	<b>Examples</b>	<b>Original Response Categories</b>
Church Attendance (1 item, Waves 1 to 6, Target report)	Frequency of the target's church attendance	Simons, R. L., et al (1995) Developed for FACHS	"How often in the past month did you attend church services?"	(1) <i>never</i> , (2) <i>once or twice</i> , (3) <i>three to four times</i> , (4) <i>more than once a week</i> (5) <i>daily</i>
Church Group Discussion (1 item, Waves 1 to 6, Target report)	Frequency of the target's attendance on group discussions related to religion	Simons, R. L., et al (1995) Developed for FACHS	"How often in the past month did you attend Sunday school, a class, or discussion group on religion?"	(1) <i>never</i> , (2) <i>once or twice</i> , (3) <i>three to four times</i> , (4) <i>more than once a week</i> (5) <i>daily</i>
Importance of Religion (1 item, Waves 1 to 6, Target report)	The importance of religion in target's daily lives	Simons, R. L., et al (1995) Developed for FACHS	"In general, how important are religious or spiritual beliefs in your day-to-day life?"	(1) <i>very important</i> , (2) <i>fairly important</i> , (3) <i>not too important</i> , (4) <i>not at all important</i>
Perceived Discrimination (13 items, Waves 1 and 4, Target report)	Perceived stress or actual experience related to racial discrimination	Simons, R. L., et al (1995) Developed for FACHS	<p>"How often has someone said something insulting to you just because you are African American?"</p> <p>"How often has a store owner, sales clerk, or person working at a place of business treated you in a disrespectful way just because you are African American?"</p>	<p>Wave 1: (1) <i>never</i> to (4) <i>several times</i></p> <p>Wave 4: (1) <i>never</i> to (4) <i>frequently</i></p>

<b>Variables</b>	<b>Definition</b>	<b>Measure</b>	<b>Examples</b>	<b>Original Response Categories</b>
Traditional Moral Beliefs (14 items, Wave 4, Target report)	How wrong did they think it is for some their age to engage in various deviant behaviors	Elliot et al., 1966	<p>“How wrong do you think it is for someone your age to...Use marijuana?”</p> <p>“How wrong do you think it is for someone your age to...Have sex without using a condom with someone other than their spouse?”</p>	(1) <i>not at all wrong</i> (2) <i>a little bit wrong</i> (3) <i>fairly wrong</i> (4) <i>very wrong</i>
Deviant Peer Affiliation (16 items, Waves 1 and 4, Target report)	How many of the target participant’s friends engaged in various deviant behaviors (e.g. violent behavior, substance abuse, ran away from home)	Developed by FACHS	<p>“During the past 12 months, how many of your close friends have...Hit someone with the idea of hurting them?”</p> <p>“During the past 12 months, how many of your close friends have...Used a weapon, force, or strong-arm methods to get money or other things from people?”</p>	(1) <i>none of them</i> (2) <i>some of them</i> (3) <i>all of them</i>

<b>Variables</b>	<b>Definition</b>	<b>Measure</b>	<b>Examples</b>	<b>Original Response Categories</b>
Parental Religiosity (3 indicators for Wave 1, 4 indicators for Wave 3, Parent report)	1. Parent's religious involvement 2. Importance of religion 3. Religious coping 4. Subjective Religiosity Subscale was also added to Wave 3	1. Parent's religious involvement: developed by Simons et al. (1995) for FACHS 2. Importance of religion: Developed for FACHS 3. Religious coping: Developed for FACHS 4. Subjective Religiosity (Wave 3 only): Levin, J. S., Taylor, R. J., & Chatters, L. M. (1995).	1. Parent's religious involvement: "How often in the past month did you...attend church services?" 2. Importance of religion: "In general, how important are religious or spiritual beliefs in your day-to-day life?" 3. Religious coping" "When you have problems or difficulties in your family, work, or personal life, how often do you seek spiritual comfort and support?" 4. Subjective Religiosity Subscale (Wave 3 only): "How important is it for African American parents to send or take their children to religious services?"	1. Parent's religious involvement: (1) <i>never</i> (2) <i>once or twice</i> (3) <i>3 to 4 times</i> (4) <i>more than once a week</i> (5) <i>daily</i> 2. Importance of religion: (1) <i>very important</i> (2) <i>fairly important</i> (3) <i>not too important</i> (4) <i>not at all important</i> 3. Religious coping: (1) <i>often</i> (2) <i>sometimes</i> (3) <i>never</i> 4. Subjective Religiosity (Wave 3 only): (1) <i>very important</i> (2) <i>fairly important</i> (3) <i>not too important</i> (4) <i>not at all important</i>

<b>Variables</b>	<b>Definition</b>	<b>Measure</b>	<b>Examples</b>	<b>Original Response Categories</b>
Racial Socialization (Wave 4, Target report)	Frequency of various familial behaviors and communication to their children regarding the issue of race and ethnicity	Hughes, D., & Johnson, D. (2001)	<ol style="list-style-type: none"> <li>1. Cultural Education: “How often within the past year have the adults in your family talked to you about important people or events in the history of your racial group?”</li> <li>2. Discrimination Warnings: “How often within the past year have the adults in your family indicated that some people might treat you badly or unfairly because of your race?”</li> <li>3. Promotion of Mistrust: “How often within the past year have the adults in your family talked to you about how you can't trust people your age from other racial or ethnic groups?”</li> <li>4. Coping with Discrimination (Developed by FACHS): “How often within the past year have the adults in your family talked about ways of overcoming prejudice and discrimination?”</li> </ol>	(1) never (2) 1-2 times (3) 3-5 times (4) 5-10 times (5) 10 or more times

Variables	Definition	Measure	Examples	Original Response Categories
Nurturant-involved Parenting (3 indicators, Waves 1 and 3, Combination of Target, Parent, and Observer report in Wave 1, Target and Parent report only for Wave 3)	1. High Warmth 2. Low Hostility 3. Good Child Management	Conger, R. D. Developed for Iowa Youth and Families Project	1. High Warmth: “During the past 12 months, how often did your [PC RELATIONSHIP]...Let you know [HE/SHE] really cares about you?”  2. Low Hostility: “During the past 12 months, how often did your [PC RELATIONSHIP]...Get angry at you?”  3. Good Child Management: “How often do you know what [TARGET NAME] does after school?”	1. Target: (1) <i>always</i> , (2) <i>often</i> , (3) <i>sometimes</i> , (4) <i>never</i>  2. Primary Caregiver: (1) <i>always</i> , (2) <i>often</i> , (3) <i>sometimes</i> , (4) <i>never</i>  3. Observer: 1( <i>no evidence of these characteristics</i> ) to 9 ( <i>high levels of these characteristics</i> )



<b>Variables</b>	<b>Definition</b>	<b>Measure</b>	<b>Examples</b>	<b>Original Response Categories</b>
Neighborhood Cohesion (15 items, Waves 1 and 3, Primary Caregiver report)	Social cohesion among neighborhood combined with their willingness to intervene on behalf of the common good	Community cohesion scale developed by Sampson, Raudenbush, and Earls (1997)	<p>“When there was a problem, the people in the area got together and dealt with it”</p> <p>“The people in the area were a fairly close-knit group”</p>	<p>All items were originally coded as (1) <i>true</i>, (2) <i>false</i> except the following items:</p> <p>“How many friends do you have in your neighborhood?”: (1) <i>none</i> (2) <i>one or two</i> (3) <i>three to five</i> (4) <i>six or more</i></p> <p>“About how often do you and people in your neighborhood do favors for each other?” and “When a neighbor is not at home, how often do you and other neighbors watch over their property?”: (1) <i>often</i> (2) <i>sometimes</i> (3) <i>never</i></p>
Neighborhood Disorder (6 items, Waves 1 and 3, Target report)	Perceived neighborhood violence, personal victimization, and incidents of homicide occurred in the target’s neighborhood	Sampson, Raudenbush, and Earls (1997)	<p>”During the past six months, how often was there a fight in your neighborhood in which a weapon like a gun or knife was used?”</p>	<p>(1) <i>often</i> (2) <i>sometimes</i> (3) <i>never</i></p>